

**STRATEGIC SCHOOLS ALLIANCE EXAMINATION -KIRINYAGA EAST**  
**443/1**  
**AGRICULTURE PAPER 1**  
**THEORY**  
**JULY/AUGUST, 2019**

**SECTION A (30MKS)**

**ANSWER ALL THE QUESTIONS IN THIS SECTION**

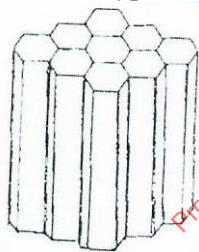
1. Name two types of labour records. ( 1mk)
2. Give two roles of deforestation as a method of land reclamation. (1mk)
3. State four reasons for sub-soiling. ( 2mks)
4. Outline four qualities of a good green maturing crop. (2mks)
5. Give four reasons for establishing cabbages in a nursery bed. ( 2mks)
6. State four pieces of information contained in a land title deed. ( 2mks)
7. Differentiate the following terms as used in crop production. ( 2mks)
  - (a) Thinning and pricking out.
  - (b) Nursery bed and a seedling bed
8. State four advantages of intercropping. ( 2mks)
9. Name two diseases of cabbage. ( 1mk)
10. State four characteristics of agroforestry tree species. ( 2mks)
11. Give two advantages of mixed stand pasture. ( 1mks)
12. Name two classes of weeds on the basis of each of the following. ( 2mks)
  - (a) Growth cycle
  - (b) Plant morphology
13. Name three types of capital giving example in each. ( 3mks)
14. State four methods used for harvesting water in a farm. ( 2mks)
15. Give four reasons for early primary tillage. ( 2mks)
16. What is the effect of application of organic manure in carrot production? ( 1mk)

**SECTION B (20MKS)**

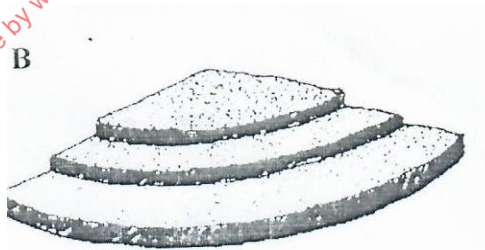
**ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED**

17. Below are two types of soil structures A and B.

A

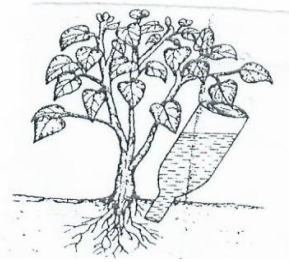


B



- (a) Identify the two types of soil structures. ( 2mks)
- (b) State where the above soil structures are likely to be found. ( 1mks)
- (c) Outline ways which soil structure influences crop production. ( 3mks)

18. The diagram below gives an illustration of a type of irrigation.



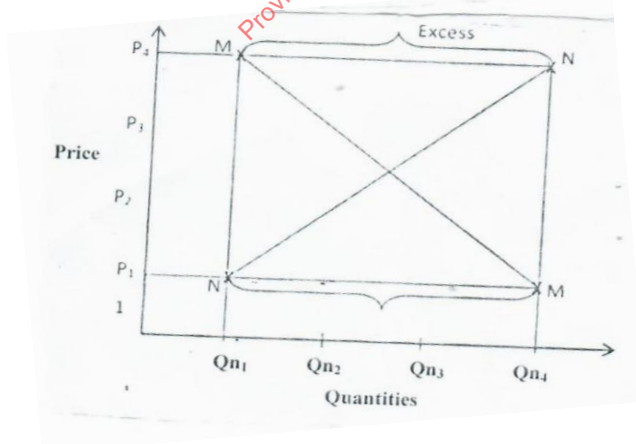
- (a) Identify the method of irrigation shown above (1mk)
- (b) State two advantages of the above irrigation. (2mks)
- (c) Outline two main reasons why the above method of irrigation is Not commonly used by most farmers. (2mks)

19. The diagram below shows common weeds, study them answer the question that follow.



- (a) Identify the weeds E, F and G. (1 ½ mks)
- (b) State three harmful effects of the weeds. (1 ½ mks)
- (c) State two safety precautions that should be observed in order to protect the user and environment when using herbicides. (1mk)
- (d) State the effects of weed labeled E to livestock. (1mk)
- (e) Give one reason why it is difficult to control the weed labeled G. (1mk)

20. Below is a graph showing the relationship between supply and demand in price determination.



- (a) Name the curves. (1mk)
- (b) State the name given to the profit where the two curves M and N intersect. (1mk)
- (c) Give two reasons why there is excess supply above P4. (1mk)

**SECTION C ( 40 MARKS)**

**ANSWER ANY TWO QUESTIONS IN THIS SECTION**

21. (a) Describe harvesting of pyrethrum under the following sub-headings.
- (i) Procedure ( 4mks)
  - (ii) Precautions (6mks)
- (b) Explain five problems faced by farmers while marketing their Agricultural products. (10mks)
22. (a) Explain the benefits of weeds to a farmer. (7mks)
- (b) Describe the physical or structural methods of controlling soil erosion. (7mks)
- (c) Outline the importance of draining farm land. ( 6mks)
23. (a) Give five reasons for seed selection in crop production. (5mks)
- (b) Give four qualities of selected seeds. (4mks)
- (c) Explain seven factors that influences seed rates in crop production. (7mks)
- (d) Explain four physical methods that can be used to control crop pest on the farm. (4mks)

**STRATEGIC SCHOOLS ALLIANCE EXAMINATION- KIRINYAGA EAST  
AGRICULTURE PAPER 2**

**THEORY**

**JULY/AUGUST, 2019**

**SECTION A (30 MARKS)**

**ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED**

1. Name the breed of goat that produces high quality wool. (½ mk)
2. State two advantages of using wood in the construction of a farm building. ( 1mk)
3. State two functional differences between petrol and diesel engines. ( 2mks)
4. Name the intermediate host of the following parasites. ( 1mk)
- (i) Tapeworm
  - (ii) Liver fluke
5. Differentiate between. ( 1mk)
- (i) Drift lambing
  - (ii) Pen lambing
6. Give two reasons why the walls of the dairy shed should be white washed instead of painting with water or soil paints. ( 1mk)
7. Mention four pre-disposing factors of scours in calves. ( 2mks)
8. Outline three reasons why calves should be fed on colostrum. ( 1 ½ mks)
9. State two functions of a queen bee in a colony. ( 1mk)
10. List two groups of vitamin as applied to livestock nutrition. (1mk)
11. Give four advantages of using a spray race in tick control in livestock. ( 2mks)
12. Give three importance of flushing in sheep management. ( 1 ½ mks)
13. State three methods of controlling Brucellosis in cattle. ( 1 ½ mks)
14. State two demerits of live fences. ( 1mk)
15. Give two ideal conformation features of beef cattle. ( 1mk)
16. State three factors that dictate livestock distribution in Kenya. ( 1 ½ mks)
17. Name three reasons that necessitate handling of livestock in the farm. ( 1 ½ mks)
18. List three non-chemical control measures of external parasites in livestock production. ( 1 ½ mks)
19. Under what condition would a farmer prefer to use an ox-cart instead of a tractor-drawn trailer? Give three reasons. ( 1 ½ mks)
20. Name four methods of identifying livestock in the farm. ( 2mks)
21. Name two factors that can cause milk inhibition during milking. ( 1mk)
22. State four qualities of good creep feed. ( 2mks)

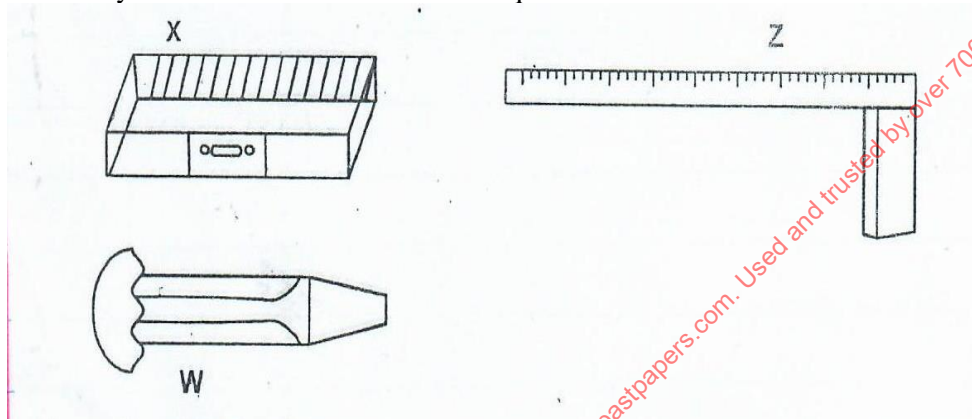
**SECTION B: ( 20 MARKS)**

**ANSWER ALL THE QUESTIONS IN THIS SECTION**

23. (a) Using Pearson square, Calculate how much of wheat (35% DCP) would be mixed with sunflower seed cake (10% DCP) to come up with duck mash (20% DCP) on a ration weighing 100kg. (2mks)
- (b) Below is a diagram of a cow suffering from a nutritional deficiency disease. Study it and answer the questions below.

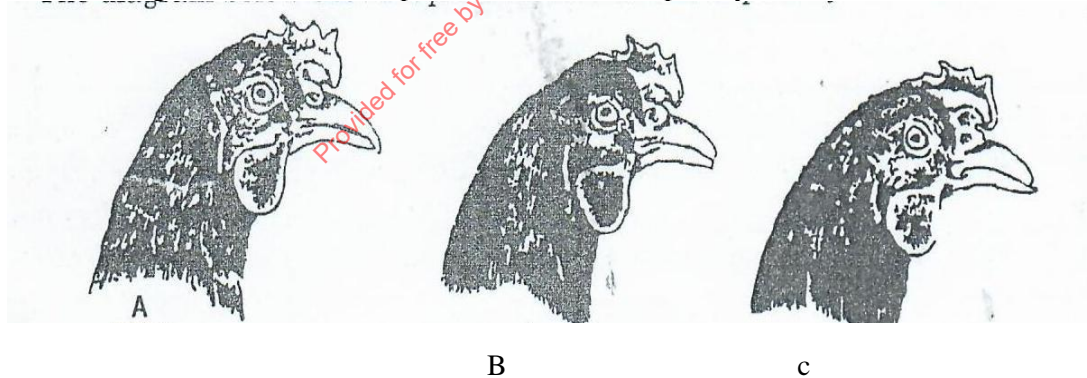


- i) Identify the disease the animal is suffering from. ( ½ mk)
- ii) List two symptoms shown by a cow suffering from the disease mentioned in b (i) above. (1mk)
- iii) Name the mineral deficient that cause the above disease. (1/2 mk)
- iv) State the two control measures of the disease mentioned above. ( 1mk)
24. Study the tools below and answer the questions below.



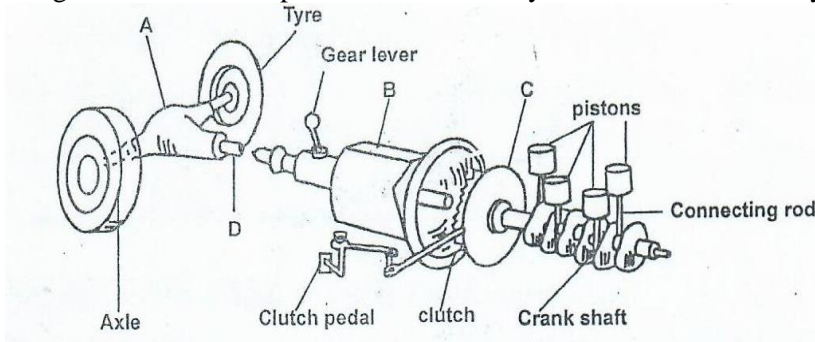
- (a) Identify the tools (1 ½ mks)
- (b) What are the functions of tool (2mks)

25. The diagram below shows a practice carried out in poultry.

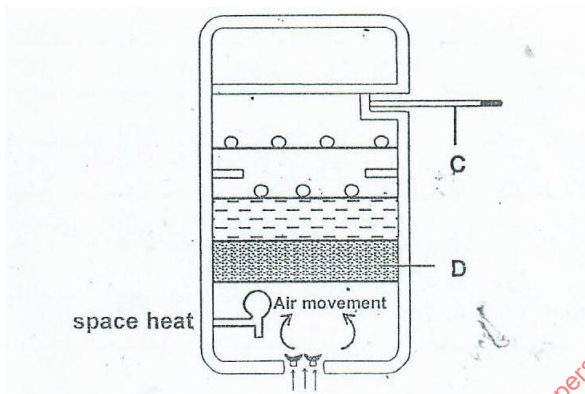


- (i) Name the practice above. ( ½ mk)
- (ii) Identify the diagram that shows the correct method of carrying out the practice mentioned in (i) above. ( ½ mk)
- (iii) Name two tools used to carry out the practice above. ( 1mk)
- (iv) Give two reasons for carrying out the practice above. ( 1mk)

26. The diagram below shows power transmission system of a tractor. Study it and answer the questions that follow



- (a) Name parts labeled (4mks)
  - (b) State three maintenance practices of sprayers. (1 ½ mks)
27. The illustration below represents an equipment used in poultry production. Study it and answer the questions that follow.



- (i) Identify the equipment (1mks)
- (ii) Identify the parts labeled (1 mks)
- (iii) Why is it important to turn the eggs 180° every 6-8 hours within the equipment? (1mk)

**SECTION C**  
**SECTION C (40 MARKS)**

ANSWER ANY Two questions from this section in the spaces provided after

- 28. (a) Describe life cycle of a two host tick. (6mks)
- b) Describe digestion in a rumen of a ruminant. (8mks)
- c) Describe the factors that stimulate milk letdown in dairy cattle. (6mks)
- 29. (a) Explain any five factors considered in siting farm buildings and structures. (10mks)
- (b) Describe coccidiosis disease under the following sub-headings.
  - (i) Animals attacked (2mks)
  - (ii) Symptoms of attack (5mks)
  - (iii) Control measures (3mks)
- 30. (a) Describe management of broiler chicks under the following sub-headings.
  - i) Parasite and disease control in the brooder. (7mks)
  - ii) Feeding management (6mks)
- (b) Describe the maintenance of the cooling system of a tractor engine. (7mks)



**KIGUMO**  
**443/1**  
**AGRICULTURE**  
**PAPER 1**

**SECTION A: (30 MARKS)**

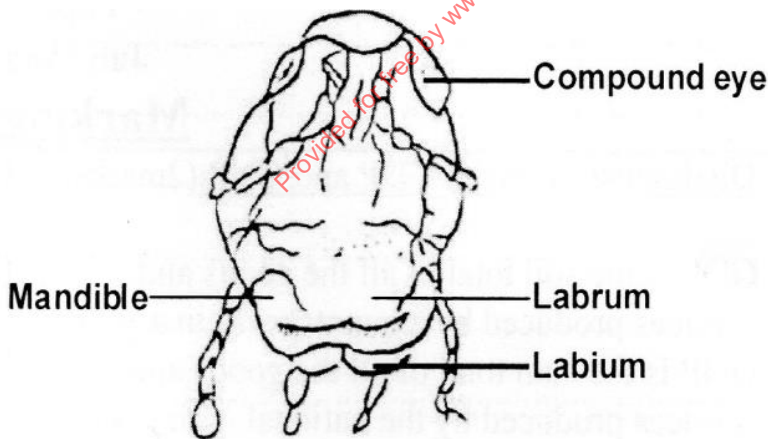
Answer all questions in this section in the spaces provided.

1. (a) State **three** factors that determine the method used to harvest a crop. (1½ marks)  
 (b) Give **four** ways in which cereals are stored in Kenya. (2 marks)
2. Outline **two** disadvantages of tenancy system in farming. (1 mark)
3. Outline **two** control measures of downy mildew in onions. (1 mark)
4. Name **two** pasture legumes grown in medium altitude zones. (1 mark)
5. Give **two** reasons why root pruning is done in the nursery management in agroforestry. (1 mark)
6. (a) Define the term joint products. (1 mark)  
 (b) Outline **two** examples of joint products in crop production. (1 mark)
7. State two benefits of optimum soil temperature in crop production. (1mk)
8. State four factors which determine the depth of ploughing. (2mks)
9. Give two sub-branches of arable farming. 1mk
10. Give two effects of scarcity in agricultural production. (1mk)
11. State two conditions that must exist for a market to be purely competitive. (2mks)
12. Name two types of pests with piercing and sucking mouth parts. (1mk)
13. Give four ways in which land reform can be implemented in Kenya. (2 marks)
14. Give four reasons why most farmers don't use green manure in crop production. (2 marks)
15. Name two crop production practices carried out after planting to achieve optimum plant population. (1 mark)
16. Name **FOUR** practices that increase light reaching a crop. [2marks]
17. State **three** functions of the coffee Board of Kenya (1 ½ mks)
18. Give four reasons why it is difficult to control Sodom apple (Solanum in canum) in pasture (2 mks)
19. State four reasons for liming soils (2 marks)

**SECTION B (20MARKS).**

**ANSWER ALL QUESTIONS IN THE SPACES PROVIDED.**

20. Observe the diagram below and answer the questions that follow.



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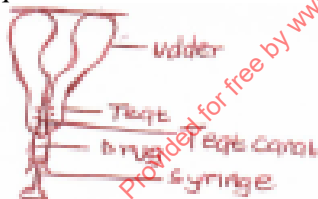


**KIGUMO**  
**443/2**  
**Agriculture**  
**Paper 2**

1. State **four** signs of good health in a cow. (2 mks)
2. State **four** dairy cattle breeds reared in Kenya (2 mks)
3. State **four** advantages of embryo transplant (2 mks)
4. List **four** characteristics of a good dairy cow (2 mks)
5. Give **two** reasons why honey is harvested in the evening (1 mk)
6. State **two** methods recommended for identifying goats (1 mk)
7. State **two** advantages of using wood in farm buildings (1 mk)
8. State **four** characteristics of succulent roughage (2 mks)
9. What is the significance of microbial activities in the rumen? (2 mks)
10. State **four** factors that affect digestibility in livestock feeds (2 mks)
11. Name the tool used for the following functions (1 mk)
  - (a) Holding, tightening and loosening metallic pipes -
  - (b) Joining two ends of wire by winding it -
12. Name the livestock disease associated with deficiency of the following in the diet (2 mks)
  - i) Iron -
  - ii) Iodine -
  - iii) Copper-
  - iv) Magnesium -
13. List **two** methods of controlling rinderpest in cattle (1 mk]
14. Name **two** functions of crop in digestive system of chicken (1 mk)
15. State **three** differences between dromedary and bactrian camel (1 mk)
16. State **two** reasons why maintenance of farm structures is important. (1 mark)
17. Name **two** kinds of livestock which can be castrated using a rubber ring (1 mk)
18. Name **two** ways of improving milk production in a herd of indigenous dairy goats (1 mk)
19. Outline **four** advantages of Kenya Top Bar Hive over the log hive (2 mks)

**SECTION B – 20 MARKS**

20. The diagram below illustrates a routine practice carried out to control a certain livestock disease. Study and answer the questions that follow.



- (a) Identify the practice (1 mk)
  - (b) Name the disease that is controlled by the above practice (1 mk)
  - (c) State **two** symptoms of the disease controlled by the practice above (2 mks)
  - (d) State **two** predisposing factors of the disease controlled by practice above (2 mks)
21. Study the farm tools below and answer the questions that follow.



- Identify each tool (2 mks)
- State the functions of each tool (2 mks)
- State **two** maintenances practices carried out on the tool marked Z. (2 mks)

22. The diagrams below show livestock parasites. Examine them and answer the questions that follow. (2 mks)



- (a) Identify each parasite (2 mks)  
 (i) L –  
 (ii) M –
- (b) State **two** negative effects on animals caused by each of the parasites (4 mks)  
**L**  
**M**
- (c) State **one** method of control for each parasite (2 mks)

**SECTION C (40 MARKS)**

**Answer any TWO questions from this section in the answer booklet provided**

23. (a) Describe the working principles of a four stroke cycle of a petrol engine (12 mks)  
 (b). State the components of power transmission system and one function of each component (8 mks)
24. (a) Discuss Newcastle disease under the following sub headings  
 (i) Causal organisms (1 mk)  
 (ii) Signs of attack (7 mks)  
 (iii) Control measures (2 mks)
- b). Outline the various management practices in a fish pond that ensure maximum yields of fish (5 mks)
- c) State **five** disadvantages of free range system of rearing poultry (5 mks)
25. (a) Describe **six** advantages of artificial insemination over natural (6 mks)  
 (b) List **four** types of fences (4 mks)  
 c) Describe the advantages of fences (10 mks)

**KIGUMO MOCK**

**AGRICULTURE PAPER 1 FORM 4**

**MARKING SCHEME**

1. a) **Factors that determine the method used to harvest a crop.**

- Growth habit of the crop
- Scale of production
- Part harvested (3 = 1½mks)

b) **ways in which cereals are stored in Kenya.**

- In traditional granaries
- In Cyprus silos/bins
- In maize cribs
- In bags (4 x ½ = 2mks)

2. **Outline two disadvantages of tenancy system in farming**

- Soil conservation measures can be poor particularly when the lease period is short or there is no written agreement.
- There may be no incentives to make expensive long term/permanent investment on land.
- The method of rent repayment for example share cropping may discourage the tenant from intensive investment.
- The tenant has no title deed to act as security. (2 x ½ = 1mk)

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The closing valuation was shillings 250, 000

- i) Prepare a profit and loss account for Pioneer farm for the year ending 2014 (7 marks)  
 ii) Did the farm make a profit or a loss and of how much? (1 mark)
23. a) Discuss the importance of irrigation in farming (12 marks)  
 b) Explain the factors that influence the type of irrigation to be used in a farm (8 marks)

**THE SALVATION ARMY KENYA WESTTERRITORIAL EVALUATION TESTS (SAKWETET)**  
**443/2**  
**AGRICULTURE**  
**PAPER 2**

**SECTION A (30 MARKS)**

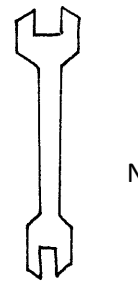
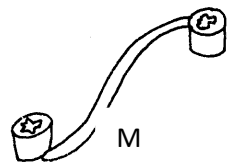
**Answer ALL questions in the spaces provided.**

1. What is zero grazing? (1mk)
2. List any **four** farm structures that are necessary for handling dairy animals. (2mks)
3. Apart from a tractor and electricity, name **four** other sources of power that may be used for doing work on the farm. (2mks)
4. Which tool would be required for each of the following farm operations?  
 (i) Cutting wool from sheep. (1mk)  
 (ii) Castrating piglets (1mk)
5. State **three** importance of keeping livestock healthy. (1  $\frac{1}{2}$  mks)
6. State **two** conditions, which would make it necessary to feed bees. (1mk)
7. State **three** methods of livestock selection. (1  $\frac{1}{2}$  mks)
8. List **three** disadvantages of embryo transplant. (1  $\frac{1}{2}$  mks)
9. Distinguish between crutching and ringing as used in livestock production. (1mk)
10. State **three** importance of a lubricating system in a tractor. (1  $\frac{1}{2}$  mks)
11. Give **two** reasons for packing eggs with the broadside upwards in an egg tray. (1mk)
12. a) Name **three** mechanical methods of controlling ticks. (1  $\frac{1}{2}$  mks)  
 b) State the intermediate host of liver fluke (1  $\frac{1}{2}$  mk)
13. Name **TWO** pre-disposing factors for mastitis. (1mk)
14. a) Name **TWO** products obtained from milk after processing. (1mk)  
 b) Give **TWO** essentials of clean milk production (1mk)
15. a) What is a feed ration (1mk)  
 b) Give **TWO** advantages of proper feeding of livestock. (1mks)
16. Name **TWO** methods of harvesting fish. (1mks)
17. Give two advantages of using Kenya Top Bar Hive over log hive in honey production. (1mk)
18. List **TWO** factors that lead to cannibalism in poultry management. (1mk)
19. Give **TWO** harmful effects of keds in sheep (1mk)
20. State **TWO** reasons for breeding livestock. (1mk)
21. State **TWO** signs of farrowing in pigs. (1mk)
22. Distinguish between pipe wrench and pipe cutter. (1mk)

**SECTION B (20 MARKS)**

Answer ALL questions in this section in the spaces provided

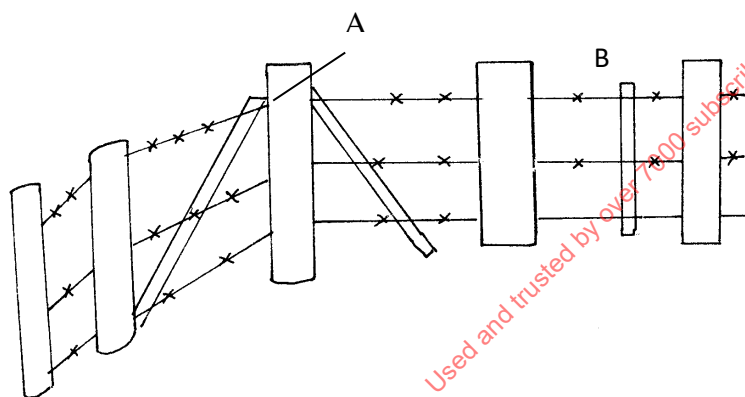
23. The following diagrams illustrates farm tools.



i) Identify the tools M ..... N.....

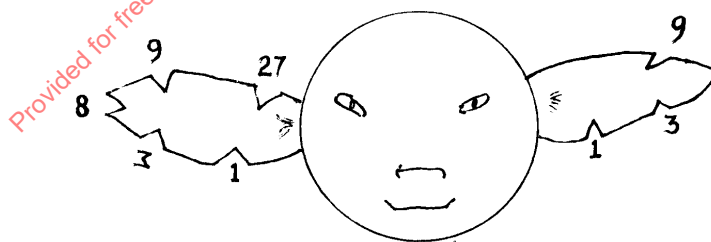
ii) State the advantage of tool M over tool N. (1mk)

24. The following is an illustration of wooden post wire fence. Study it and answer the Questions that follow.



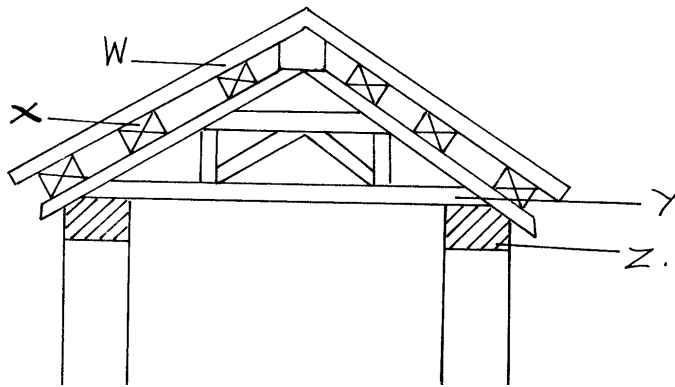
- i) Identify the type of wire in the illustration. (1mk)
- ii) Label the parts A and B on the diagram. (2mks)
- iii) Name three ways of making wooden post to last long. (3mks)
- iv) Name a tool used to tighten the wire during construction. (1mk)

25. Study the diagram below and answer the questions that follow. The number on the right ear represents the litter number while the left ear number represents the individual number.



- a) Name the livestock routine practice shown above. (1mk)
- b) State three reasons why farmers carry out the livestock routine practice shown in the diagram above. (3mks)

26. The diagram below represents parts of a roof. Study the diagram carefully and answer questions that follow.



- a) Name the parts labelled WXY and Z. (4mks)
- b) State ONE factor which determine the pitch of the roof. (1mk)
- c) Give a reason for your answer in (b) above (1mk)

**SECTION C (40 MARKS)**

**Answer any two Questions from this section in the blank spaces provided**

- 27. Discuss bloat disease under the following sub-headings:
  - a) Species of the animals affected by the disease. (3mks)
  - b) Causes of the disease. (4mks)
  - c) Symptoms of the disease. (6mks)
  - d) Control measures of the disease (2mks)
  - e) Treatment of the disease. (5mks)
- 28. a) Explain the factors to consider when sitting farm structures. (5mks)
- b) Explain the uses of fences on the farm. (8mks)
- c) Give the advantages of live fences. (7mks)
- 29. Describe the management of layers in a deep litter system from the point of lay. 20mks

**THE SALVATION ARMY KENYA WEST TERRITORIAL EVALUATION TESTS (SAKWETET) 443/1 AGRICULTURE PAPER 1 MARKING SCHEME**

**SECTION A**

**1 Factors characterizing small scale farming**

- Small size of land
- Limited capital
- Limited tools/implement
- Less labour required
- Maximizes use of available labour

Any 4 x ½ = 2 marks

**2 4 methods of farming**

- Shifting cultivation
- Nomadic pastoralism
- Organic farming
- Mixed farming
- Agro forestry

Any 4 x ½ = 2 marks

**3 Differentiate between hybrid and composite.**

- (a) Hybrid - A crop developed by crossing different crops varieties under controlled pollination.
- (b) Composite - A crop variety developed under uncontrolled pollination. Mark as a whole = 2mks

**4 Effects of HIV/Aids on agricultural production**

- shortage of farm labour due to bad health



**SHIBALE ACK SECONDARY SCHOOL  
AGRICULTURE PAPER 1**

**SECTION A – 30 MARKS**

*Answer all the questions in this section*

- 1) List **two** aspects of light that **influence crop growth** (1mark)
- 2) Outline **three** benefits of a good soil structure in crop production (1½ mks)
- 3) State **four** reasons why primary cultivation is important when preparing land (2marks)
- 4) Outline **four** factors that contribute to the competitive ability of weeds (2marks)
- 5) Give the importance of having correct plant population in the production of onions (1mark)
- 6) Outline **any four** steps followed in land adjudication (2marks)
- 7) Give **four** ways in which trees help in soil conservation (2marks)
- 8) State **four** bases on which the classification of fertilizer is done (2marks)
- 9) State two reasons why fruit crops are pruned (1mark)
- 10) State four advantages of growing crops on large scale (2marks)
- 11) Outline three variable inputs in bean production (1½ mks)
- 12) Calculate the amount of potassium oxide (K<sub>2</sub>O) contained in 400kg of compound fertilizer 20:10:5 (2marks)

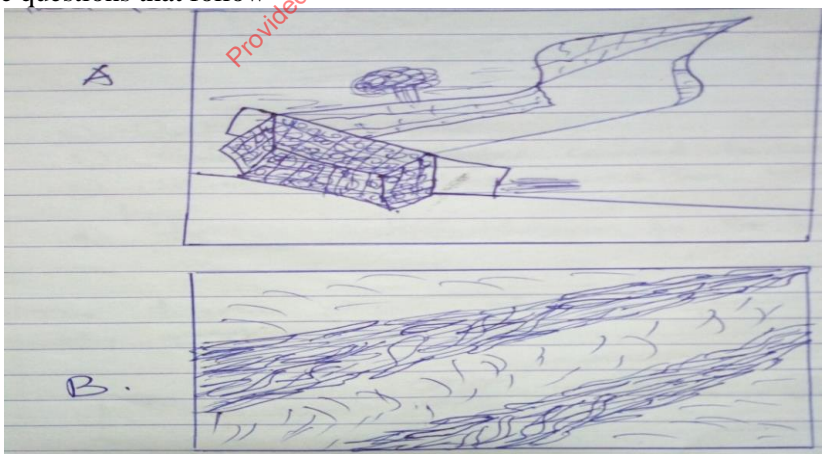
**SECTION B – 20 MARKS**

*Answer all the questions in this section*

- 13) Some students analyzed soil samples to find out the percentage volume of coarse sand, fine sand, silt and humus. They recorded their finding as shown in the following table

Soil sample	Coarse sand	Fine sand	Silt	Clay	Humus
A	5	15	15	15	3
B	11	30	20	8	2
C	1	4	10	29	2
D	2	5	10	25	3
E	3	23	8	18	3

- a) Which one of the soil samples is:
  - i) Capable of retaining the highest amount of water? (1mark)
  - ii) Likely to be more suitable for farming (1mark)
  - iii) The lightest (1mark)
- b) When rain water is collected and evaporated, it leaves no residue but when it is allowed to trickle through along column of soil a light residue is left when the water is collected and evaporated. Explain this observation (2marks)
- 14) The illustrations A and B below show some structures used in soil and water conservation. Use them to answer the questions that follow



- a) Identify the structures (1mark)
- b) Name the type of soil erosion controlled by each of the structures (2marks)

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**SHIBALE ACK SECONDARY SCHOOL**

**AGRICULTURE PAER II**

**SECTION A – 30MARKS**

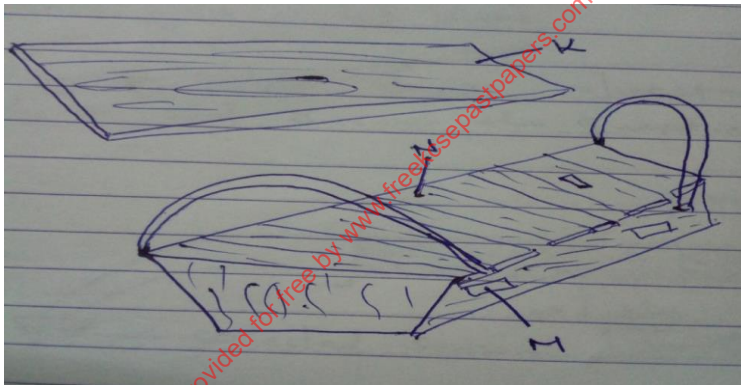
*Answer all questions in this section*

- 1) Outline **three** symptoms of respiratory disorder in animals (1½ mks)
- 2) Give **two** functions of calcium and phosphorous in the diet of a young livestock (1mark)
- 3) State **three** reasons why harvesting honey at night is discouraged (1½ mks )
- 4) Outline **five factors** that should be considered when selecting materials for construction of a calf pen (2½ mks)
- 5) State **four** reasons why castration is carried out in cattle (2marks)
- 6) Name **four** structures which would help control livestock parasites on the farm (2marks)
- 7) Name **four** livestock diseases caused by bacteria (2marks)
- 8) Outline **six** conformational features of a dairy cattle (3marks)
- 9) Give **four** products of microbial digestion in the rumen of a cattle (2marks)
- 10) Give **four** advantages of embryo transfer in livestock production (2marks)
- 11) State **four** factors a farmer should consider when selecting a gilt for breeding (2marks)
- 12) Outline **two** disadvantages of natural method of calf rearing (1mark)
- 13) Give **two** functions of the reticulum in the digestion of food in cattle (1mark)
- 14) What is the name given to the **young one of a rabbit** (½ mks)
- 15) a) Give **two symptoms** that would show an animal is suffering from **rinderpest** (1mark)
- b) State **two methods** of controlling rinderpest in cattle (1mark)
- 16) Outline **four factors** that determine nutritional requirements of an animal (2marks)
- 17) Give **four reasons** why proper feeding of livestock is important (2marks)

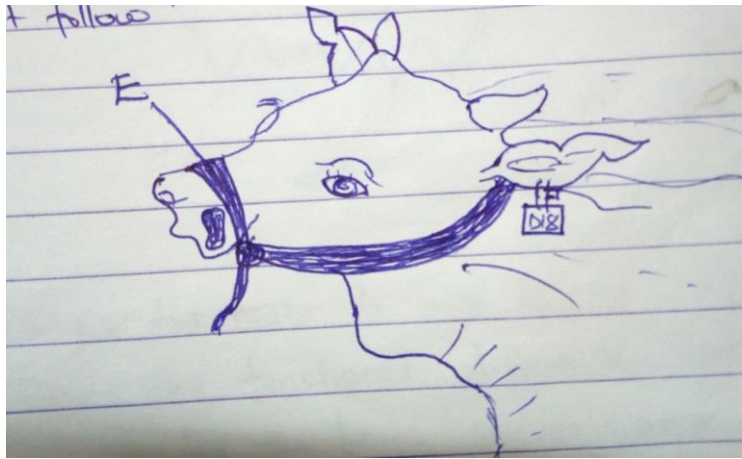
**SECTION B – 20 MARKS**

*Answer all questions in this section*

- 18) The diagram below shows a Kenya top bar hive. Study it carefully then answer the questions that follow

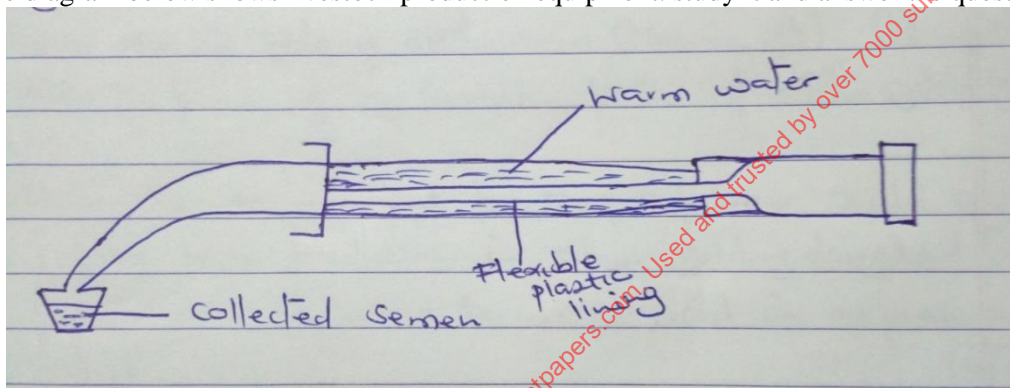


- a) Identify the parts labeled **N** and **M** (1mark)
  - b) State the **functions** of the parts labeled **K, N** and **M** (1½ mks)
  - c) Name the tool used to detach honey combs from the hive during honey harvesting (½ mks)
  - d) State **two** maintenance practices carried out on the hive (1mark)
  - e) How can bees be made to colonize a new hive? (1mark)
- 19) Study the diagram below and answer the questions that follow



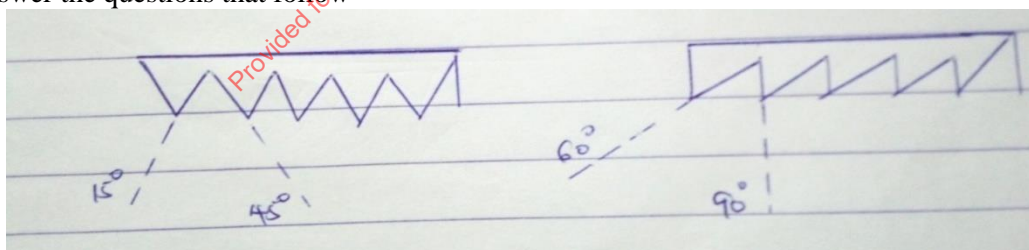
- a) Identify the livestock equipment marked **E** (1mark)
- b) State the **use** of the equipment you have identified (1mark)
- c) State **any two** types of identification marks applied on the animal shown (1mark)
- d) Give **one disadvantage** of each of the identification marks you have named in (c) above (2marks)

20) The diagram below shows livestock production equipment. study it and answer the questions that follow



- a) Identify the equipment (1mark)
- b) What is the **importance** of the warm water in the equipment (1mark)
- c) Describe the procedure followed when using the equipment in collecting semen (3marks)

21) Illustrations below are teeth arrangement in two hand working tools labeled A and B. Study the arrangement and answer the questions that follow



- a) **Name** the tools labeled **A** and **B** as represented by the teeth arrangements (1mark)
- b) Name the **functional difference** between tools **A** and **B** as shown by the teeth arrangement (2marks)
- c) Give the **maintenance practices** for the tools represented by the teeth arrangements

**SECTION C – 40 MARKS**

*Answer any two questions in this section*

- 22) a) **Explain** the **types** of stores that can be found on a farm (8marks)
- b) **Describe** the **uses** of farm fences in the promotion of agriculture (6marks)
- c) **Explain three** routine livestock feeding practices carried out when rearing livestock

- c) Give the signs of parturition in a rabbit  
 – Restlessness  
 – Loss of appetite  
 – Plucking fur from her body  
 – Building a nest with her plucked fur

(4marks)

**TRIAL 1 PRE-MOCKS 2019**

443/1

**AGRICULTURE  
 PAPER I**

**SECTION A (30 MARKS)**

**Answer ALL the questions in this section in the spaces provided**

1. List **three** characteristics of large scale farming system (1½ mks)
2. Differentiate between grafting and budding (1mk)
3. State **three** pieces of information contained in a land title deed (1½ mks)
4. Distinguish between each of the following pairs of terms
  - I) Pricking out and thinning (1mk)
  - II) Nursery bed and a seedling bed (1mk)
5. Give reasons for carrying out the following practices in a tomato nursery
  - i) Avoid excess application of nitrogen (½mk)
  - ii) Sinking the nursery bed below the ground level (½ mk)
  - iii) Hardening off (½mk)
6. Give **two** ways in which cut off drains control soil erosion (1 mk)
7. State **six** ways through which soil loses fertility (3mks)
8. Name **two** examples of potassic fertilizers (1mk)
9. State **two** diseases of leaf that attack sorghum. (1mk)
10. Give **three** reasons why a farmer needs to conserve forage . (1½ mks)
11. State **two** positive effects of high environmental temperatures on crop farming (1mk)
12. State **four** biological methods of soil erosion control (2ms)
13. Name **two** types of labour records (1mk)
14. State **four** physical methods of pest control (1mk)
15. Outline **three** reasons of top dressing a pasture land (1½ mks)
16. State **three** symptoms of bacterial attack in crop production (1½ mks)
17. State **four** factors which affect the quality of a silage. (2mks)
18. State **two** conditions under which opportunity cost is zero in a farming enterprise. (1mk)
19. Give **four** reasons of using certified seeds for planting . (2mks)
20. State **four** factors that affect rooting of cuttings. (2mks)

**SECTION B (20MARKS)**

**Answer ALL Questions in this section**

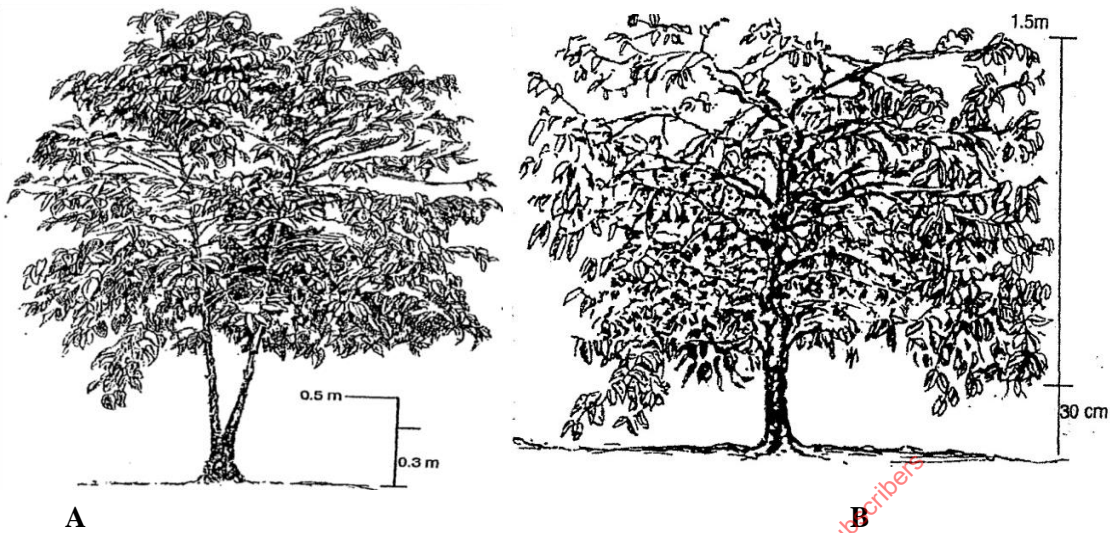
21. Below is a record format kept in the farm

Sow No..... Breed.....	Sire No..... Breed.....	Date of service	Date of farrowing		Remarks
Sow1..... ..... Sow 2			Expected	Actual	

- a) Identify record format illustrated above (1mk)
- b) State **two** importance of a farmer keeping the type of records identified above (2mks)
- c) Why do institutions loaning money (credit) to farmers insist on seeing farm records of the loan applicant? (1mk)

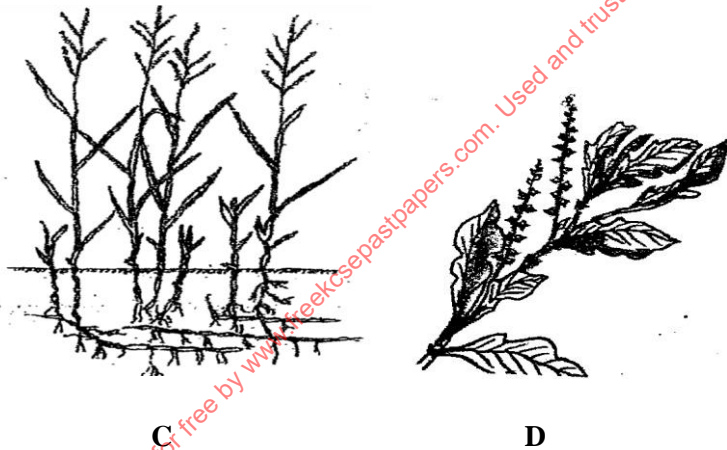


22. The diagrams labeled **A** and **B** are illustrations of coffee established using two different formative pruning systems. Study them and answer the questions that follow.



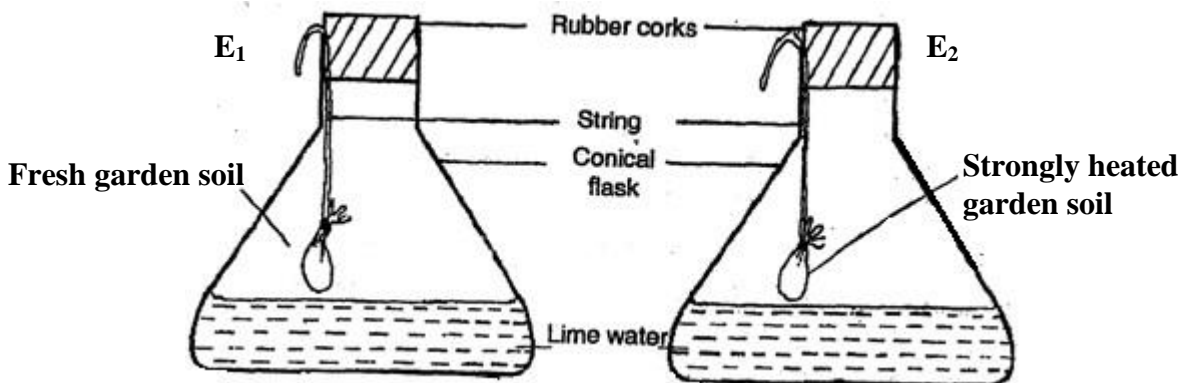
- a) Name the system of pruning illustrated in diagram **A** and **B** above. (2mks)
- b) Outline the procedure of how the pruning illustrated in diagram **B** is carried out. (3mks)

23. The diagrams below show common weeds on arable land



- i) Identify the weeds (2 mks)
- ii) Why is it difficult to control weed **C** (1mk)
- iii) Name **three** chemicals used to control weed **C** in a field of coffee (3mks)
- iv) State **two** harmful effects of weed **D** (2mks)

24. The diagram below illustrates an experiment carried out by a form one boy. Study it carefully and answer the that follow



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**443/1**  
**AGRICULTURE**  
**PAPER 1**

**SECTION A: (30 MARKS)**

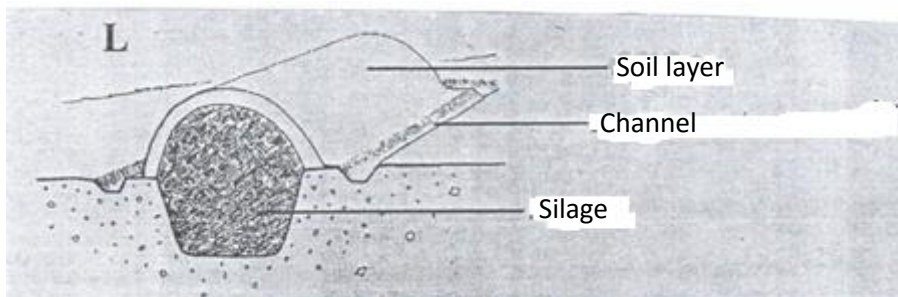
**Answer all questions in this section in the spaces provided.**

1. State **two** advantages of intensive farming system. (1mk)
2. Outline **four** effects of application of nitrogenous fertilizers on tomatoes. (2mks)
3. List **four** ways which are used to control stalk borers in maize. (2mks)
4. Give **four** factors that influence the quantity of water used in the farm. (2mks)
5. State **four** characteristics of trees and shrubs suitable for agroforestry. (2 mark)
  
6. Name **three** examples of leguminous fodder crops. (1½mks)
7. Give **four** methods of layering in crop production. (2mks)
8. State **four** principles that govern the running of co-operatives in Kenya. (2mks)
9. Give **four** disadvantages of landlordism tenancy system of land tenure. (2mks)
10. List **two** types of labour record kept on the farm. (1mk)
11. Give reason as to why the following practices are carried out in preparation of planting materials.
  - (i) Seed dressing. (½mk)
  - (ii) Seed inoculation. (½mk)
  - (iii) Chitting. (½mk)
12. State **four** factors influencing supply of beans in a local market. (2mks)
13. State **four** ways in which biological agents influence soil formation. (2mks)
14. Beside providing water to the plants. State **two** other uses of flood water to rice field. (1mk)
15. Outline **four** reasons for pruning fruits crops. (2mks)
16. State **four** importance of breaking hard pan in land preparation. (2mks)
17. How are the following conditions prevented in carrot production? (2mks)
  - (i) Forking.
  - (ii) Greening of root tuber.

**SECTION B: (20 MARKS)**

**Answer all questions in this section in the spaces provided.**

18. The illustration below shows a layout of a method of making compost manure. Study it correctly and answer the questions that follow.
  - (a) Identify the method above. (1mk)
  - (b) Using letters **X, Y** and **Z** and arrows complete the diagram above. (4mks)
  
19. Observe the structures labelled **L** and answer the questions that follow.



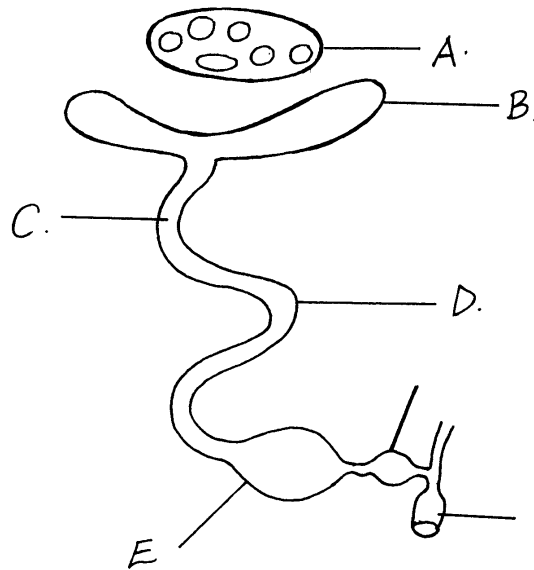
- (a) Name the structure labelled **L**. (1mk)
- (b) State the importance of the channel around the structure **L**. (1mk)
- (c) Outline **two** reasons for conserving forage. (2mks)
- (d) Name **two** main silage losses that can occur during ensiling. (1mk)



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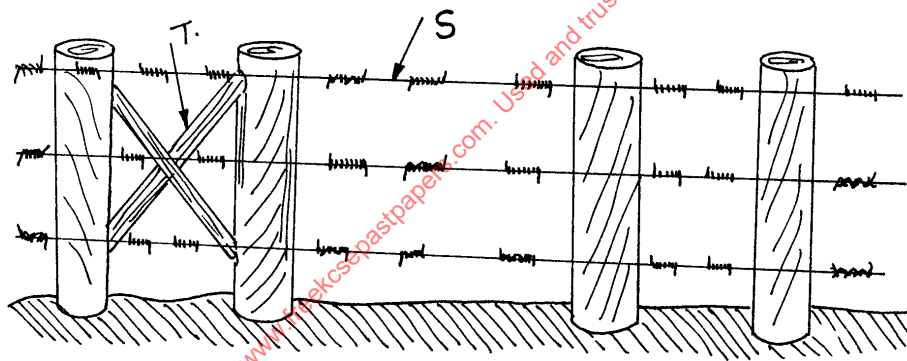


20. Study the diagram below and answer the questions that follow:



- i) Name part A and D (2mks)
- ii) Describe two changes that occur on the yolk at each of the parts B to E. (2mks)
- iii) State four disadvantages of inbreeding (4mks)

21. Study the structure and answer the questions:



- a) Name the structure above. (1mk)
- b) Name the parts labeled: S & T (2mks)
- c) State the functions of parts labeled T (2mks)
- S

**SECTION C: Answer any two questions in this section**

- 22. a) Discuss the essentials of clean milk production. (14mks)
- b) Name the common poultry vices and outline their control. (6mks)
- 23. Discuss bloat disease under the following sub-headings.
  - a) Species of the animals affected by the disease. (3mks)
  - b) Causes of the disease. (4mks)
  - c) Symptoms of the disease. (6mks)
  - d) Control measures of the disease (2mks)
  - e) Treatment of the disease. (5mks)
- 24. Explain the measures used to control
  - (a) Livestock diseases (14mks)
  - (b) Livestock parasites. (6mks)

**NYANDARUA WEST SUB-COUNTY CLUSTERS EXAMINATION.  
443/2 – AGRICULTURE – PAPER 2  
(THEORY)**

**SECTION A (30 marks)**

*Answer all the questions in this section in the spaces provided.*

1. State **four** disadvantages of Natural method of servicing cattle. (2mks)
2. State **four** maintenance practices carried out on workshop tools and equipment. (2mks)
3. Give **four** reasons for castrating male calves not required for breeding in a farm. (2mks)
4. Give **four** factors considered when siting a fish pond in a farm. (2mks)
5. Give **four** causes of cannibalism in poultry production. (2mks)
6. State **four** factors to consider when selecting breeding stock in livestock production. (2mks)
7. Give **four** reasons of using litter in a poultry house. (2mks)
8. (a) Give **four** reasons why identification of livestock is an important rearing practice in a farm. (2mks)  
(b) Explain any **two** harmful effects of branding as a method of identification in cattle. [2mk]
9. Name **four** breeds of sheep reared in Kenya. (2mks)
10. Distinguish between each of the following terms as used in livestock rearing practices.
  - (a) Steaming up and flushing. (1mk)
  - (b) Kindling and farrowing. (1mk)
11. What is **quarantine** as a preventive measure of livestock diseases? (1mk)
12. State **four** factors considered during sorting out and grading eggs for marketing. (2mks)
13. State **two** ways by which an animal acquire water in its body. (1mk)
14. State **four** control measures of round worm (Ascaris lumbricoides) infestation in livestock. (2mks)
15. State the function of the following ingredients in the preparation of artificial colostrum for calves.
  - (a) Castor oil –..... (1/2mk)
  - (b) Warm water..... (1/2mk)
  - (c) Eggs- ..... (1/2mk)
  - (d) Cod liver oil- ..... (1/2mk)

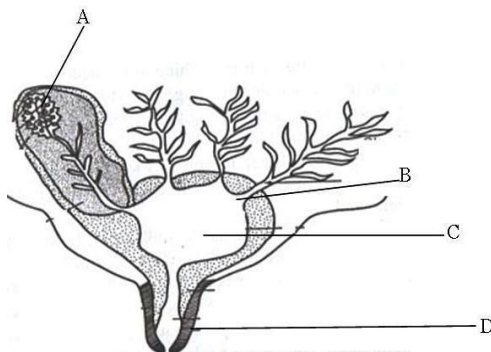
**SECTION B (20 marks)**

*Answer all the questions in this section in the spaces provided.*

16. The diagram below shows a livestock parasite.



- (a) Identify the parasite shown above. (1mk)
  - (b) State **two** harmful effects of the above parasite on livestock. (2mks)
  - (c) Explain any **two** methods used in the control of the above parasite. (2mks)
17. The diagram below represents the structure of a quarter of the cow's udder. Study it and answer the questions that follow.



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**MUMIAS WEST MOCK  
AGRICULTURE  
PAPER 1**

**SECTION A (30 MARKS)**

*Answer all Questions in this section on the spaces provided*

1. Give two activities that justify the fact that Agriculture is: (2 marks)
  - (a) An art .....
  - (b) A science.....
2. List four different industrial goods whose market is agriculture. (2 marks)
3. State four characteristics of waterlogged soils that make them generally unsuitable for crop production. (2 marks)
4. State how per capita income of a country is calculated. (1 mark)
5. Give four reasons to justify practising minimum tillage in crop production. (2 marks)
6. Which two routine practices are necessary to ensure high quality in a compost heap? (1 mark)
7. Give two practices in crop production that constitute organic farming. (1 mark)
8. Identify the land tenure described for each of the following: (2 marks)
  - (a) The land has not been consolidated, adjudicated or registered but is gazetted.
  - (b) A person has legal rights to the ownership and exclusive use of land and has title deed under his name.
9. What is “Economic Injury Level” as used in pest control? (1 mark)
10. Give two factors that influence palatability of pastures. (1 mark)
11. Define “capping” as used in coffee plantation management. (1 mark)
12. State the principle of substitution. (1 mark)
13. a) List four sites for agroforestry trees in the farm. (2 marks)
- b) Distinguish between coppicing and lopping as tree harvesting practices in Agroforestry. (2 marks)
14. State four effects of soil erosion on the economy of Kenya. (2 marks)
15. Give four ways in which soil pH is important in crop production. (2 marks)
16. The school farm plans to grow either Irish potatoes or Maize for grains. Study the following information carefully then answer the questions that follow:
 

**Irish Potatoes**

(i) Yield per hectare	5000kg
(ii) Labour requirements per ha	60 man-days
(iii) Labour cost	150/- per man-day
(iv) Potato seed/ha	6,000pieces
(v) Cost of tractor hire/ha for cultivation	4,000/=
(vi) Cost of DAP fertilizer/ha	3,500/=
(vii) Selling price of potatoes per kg	10/=

**Maize**

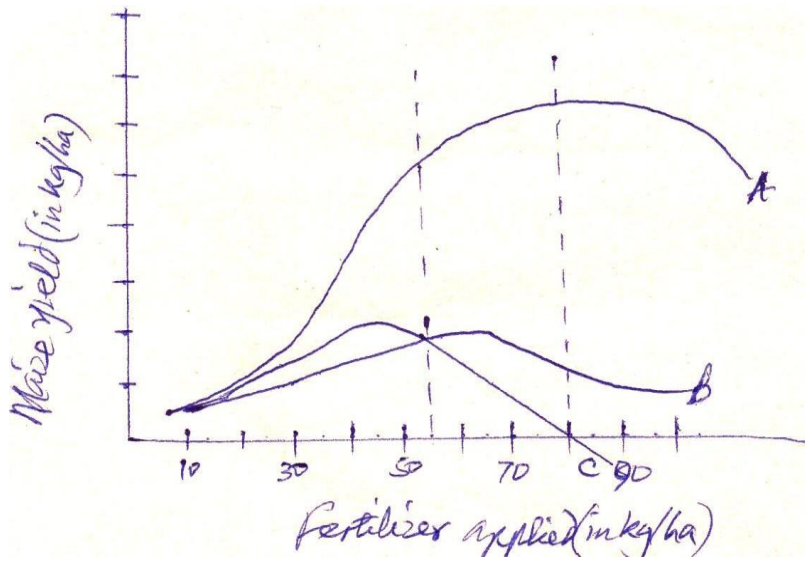
(i) Yield per hectare	5,500kg
(ii) Selling price of Maize/kg	15/=
(iii) Labour requirements per ha	50 man-days
(iv) Labour cost of labour per ha	150/- per man-day
(v) Tractor hire/ha for cultivation	3,000/=
(vi) Cost of seed per ha	2,500/=
(vii) Cost of DAP fertilizer/ha	4,500/=
(viii) Cost of CAN/ha	3,000/=

  - (a) Calculate gross margin for the two crops (4 marks)
  - (b) From the results obtained in (a), which crop should the farmer grow? (1 mark)

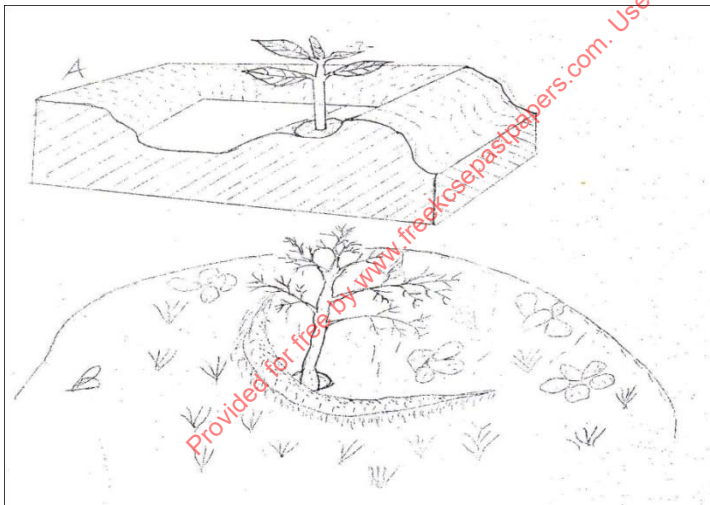
**SECTION B: (20 Marks)**

Answer all questions in this section on the spaces provided.

17. The diagram below shows how the yields of maize per hectare changes as the amount of fertilizer supplied is varied. Study it carefully then answer the questions that follow:



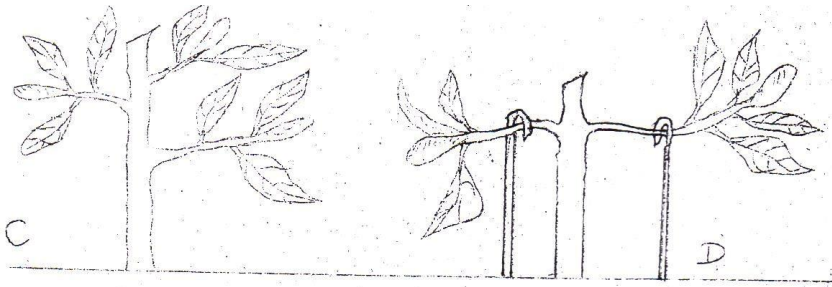
- (a) Explain why the curves do not start from zero. (1/2 mark)
  - (b) On the graph, indicate the regions of a production function. (1/2 mark)
  - (c) Give one characteristic of each of the regions labelled in (b). (1 1/2 mark)
  - (d) What name do you give the two regions where the farmer should not operate? (1/2 mark)
18. Carefully study the micro-catchment below then answer the questions that follow.



- (a) What are micro-catchments? (1 mark)
- (b) Name four types of micro-catchments used by farmers. (2 marks)
- (c) Identify the type of micro-catchment labelled B. (1/2 mark)
- (d) State the rainfall ranges suitable for micro-catchment labelled A. (1/2 mark)
- (e) Give four reasons for constructing micro-catchments. (2 marks)

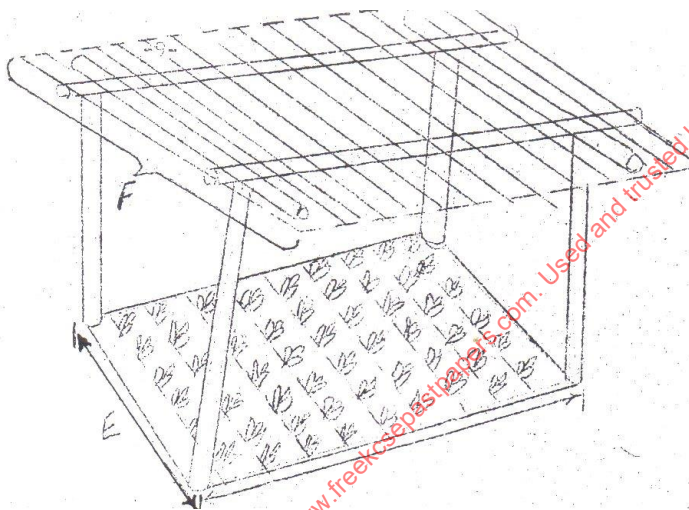


19. Study the diagrams of frame formation illustrated carefully then answer the questions that follows:

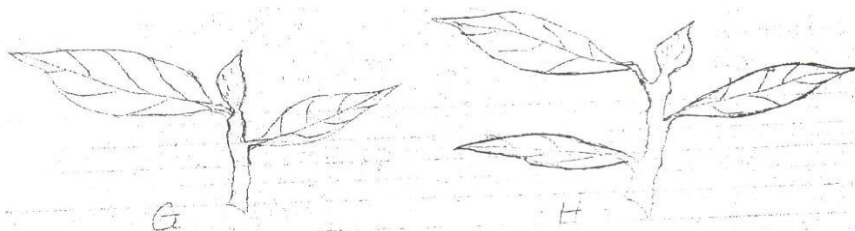


- (a) Identify the practices labelled C and D. (1 mark)
- (b) State an alternative way of carrying out the practice in D above. (1 mark)
- (c) At what height is practice C first carried out? (1/2 mark)

20. The diagram below illustrates a vegetable nursery. Study is carefully then answer the questions that follow:



- (a) Distinguish between a nursery bed and a seedling bed. (1 mark)
  - (b) (i) Give the dimension of the part labelled E. (1/2 mark)
  - (ii) Give one reason for your answer in (b)(i) (1/2 mark)
  - (c) What is the importance of:
    - (i) The part labelled G? (1 mark)
    - (ii) Raising the bed? (1 mark)
  - (d) State four management practices carried out on seedlings in the nursery before transplanting. (2 marks)
21. The illustration below shows two ways of harvesting tea. Study them carefully then answer the questions that follow.



**G**

**H**

- (a) Identify the methods of harvesting tea labelled. (1 mark)
- (b) State one advantage of using each of the methods in harvesting tea. (1 mark)
- (c) Which of the methods produces high quality tea for export market? (1/2mark)

**SECTION C: (40 Marks)**

Answer any TWO questions in this Section in the spaces provided after Question 24.

- 22. (a) Describe three practices that help conserve soil in the farm. (6 mks)
- (b) Discuss the overall effects of HIV/AIDS and ill-health on Agricultural production among farmers in Kenya. (8 marks)
- (c) Outline the procedure for making silage. (6 marks)
- 23. (a) Outline four farm conditions that necessitate the use of Herbicides over other methods in controlling weeds. (4 marks)
- (b) Differentiate between selective and contact herbicides. (2 marks)
- (c) Describe the field production of Maize under the following Sub-headings: (14 marks)
  - (i) Seedbed preparation
  - (ii) Planting and fertilizer application
  - (iii) Weed control
  - (iv) Harvesting
- 24. (a) Give four categories of labour available to the farmer. (4 marks)
- (b) State aspects of land that influence agricultural production. (4 marks)
- (c) Describe the various plant parts used in vegetative Propagation of named crops. (7 marks)
- (d) Describe five methods of breaking seed dormancy. (5 marks)

**MUMIAS WEST MOCK**

443/2

**AGRICULTURE PP2**

**SECTION A**

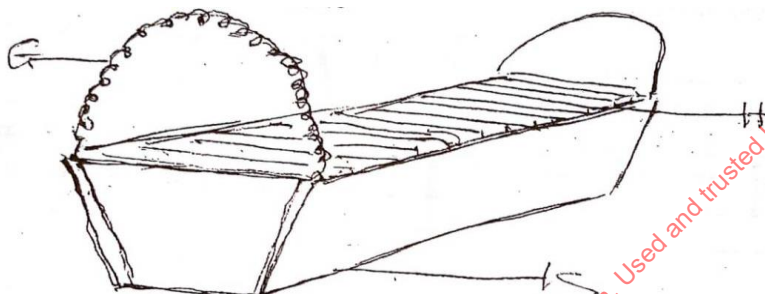
Answer all questions in this section in the spaces provided

- 1. Name two viral diseases that affect each of the following livestock
  - (a) Cattle
  - (b) Poultry
- 2. Make diagnosis of the following viral diseases in cattle
  - (a) Animal has red mucous membrane, is grinding teeth and shows dysentery. (1mk)
  - (b) Wound or blisters on tongue gums and palate and lameness due to wounds in the coroner on all legs (1mk)
- 3. Which livestock disease is transmitted by each of the following ticks
  - (i) Blue tick.....
  - (ii) Brown ear tick.....
- 4. State four practices which are carried out to control mastitis in lactating cow's. (2mks)
- 5. Give four advantages of embryo transfer in cattle production. (2mks)
- 6. Name four organs of the livestock in which various stages of the roundworm are found in its life cycle. (2mks)
- 7. Name two breeding practices carried out to facilitate mating in adult ewes and rams. (1 mk)
- 8. Give four reasons for creep feeding in piglet management. (2mks)
- 9. Give four way through which power transmitted from a tractor engine is made a vailable for use. (2mks)
- 10. Name two types of air cleaners used in tractors. (1mk)
- 11. Name the type of hammer used in each of the following practices on the farm (2mks)
  - (i) Riveting and driving in cold chisels
  - (ii) Crushing big stones and driving in wedges when splitting wood

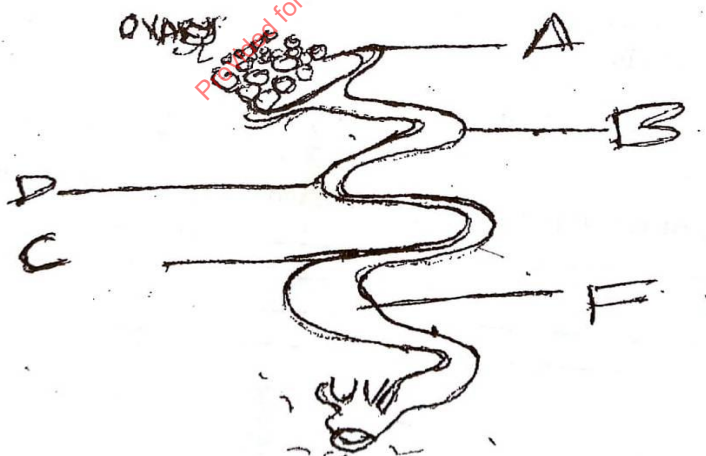
- (iii) Driving in wood chisels.
- (iv) Driving in and removing wire nails
- 12. Name four types of fencing posts found on a wooden posts and barbed wire fence. (2mks)
- 13. State four symptom of east coast fever. (2mks)
- 14. What is meant by the following terms as used in livestock breeding
  - (a) In breeding depression (2mks)
  - (b) Hybrid vigour (2mks)
- 15. Name two hormones that influence milk let down (1mk)
- 16. Give four reasons for in breeding in livestock production. (2mks)
- 17. (a) Which conditions of the incubator may lead to each of the following types of chicks and eggs.
  - (i) Big marshy chicks (½ mk)
  - (ii) Unhatched eggs with germinal disc sticking onto egg shells. (½ mk)
- b) (i) During which days of incubation is candling of hatching eggs first done? (½ mk)
- (ii) During which days of incubation is turning incubating eggs avoided (½ mk)

**SECTION B. 2 MKS**

18. (a) Below is a diagram of a beehive

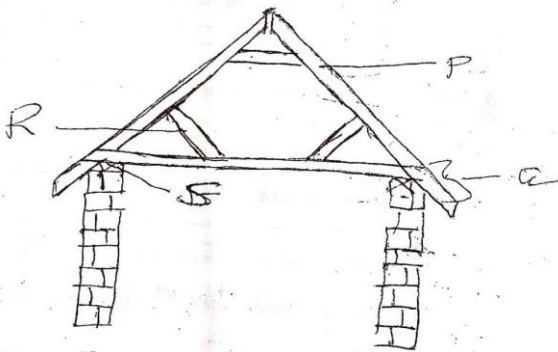


- (i) Name the type of the beehive. (½ mk)
  - (ii) Name the parts labeled G.H. and K (½ mk)
  - (iii) Why should the sides of the hive slant at an angle (½ mks)
  - (iv) What tool is used for detaching combs during honey harvesting (½ mk)
  - b) State four factors that influence the quality of honey (2mks)
19. The diagram is an illustration of the reproductive system of a hen



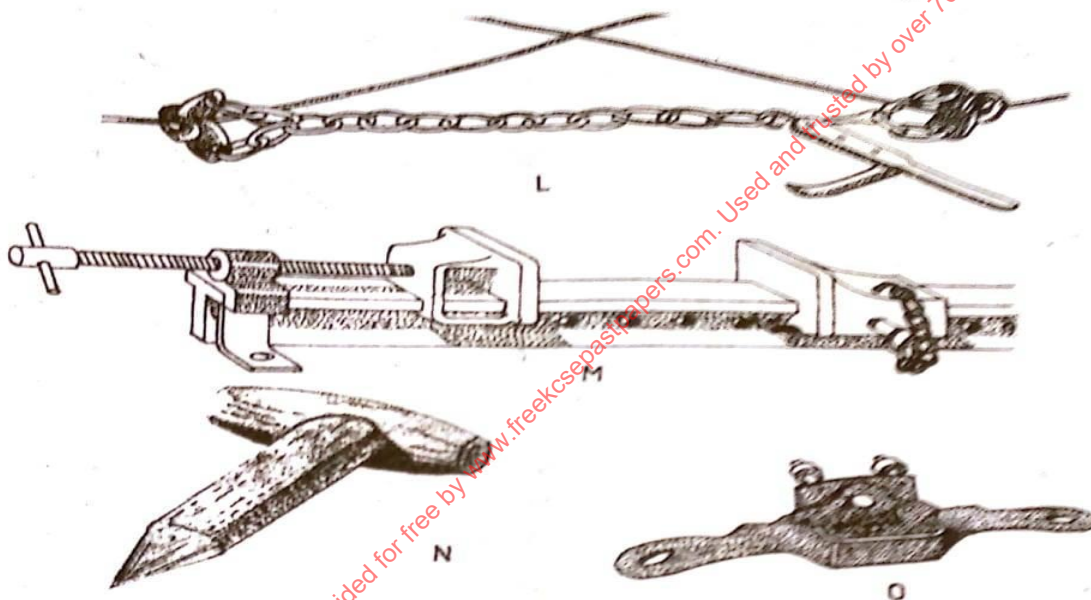
- a) State what happens in the parts labeled (2mks)
- b) State two functions of the ovary (2mks)
- c) What is likely to be observed on the shanks of non laying hens. (1mk)

20. (a) The diagram below illustrates a farm structure . Study the illustration and answer the questions that follow.



(i) Name the parts labeled P,Q,R and S

21. L, M, N and O are diagrams of farm tools. Study them and answer the questions that follow

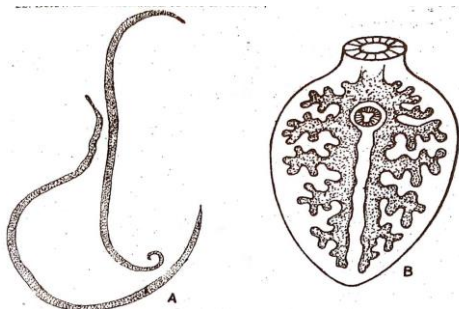


(i) Identify the farm tools

(ii) Give two reasons for maintaining farm tools.

(2mks)

22. Below is an illustration of two livestock parasite A and M



- (i) Identify the parasite. (1mk)

**SECTION C: 40MKS**

**Answer any two questions from this section in the spaces provide after questions**

23. a) State the differences between *Bos indicus* and *Bos taurus* breeds of cattle. (3mks)  
 b) Using the persons square method compute a 100 kg ration with 20% DCP from oats which contains 10% DCP and simsim seeds cake containing 60% DCP (5mks)  
 c (i) differentiate between cropping and harvesting of fish. (2mks)  
 (ii) Outline the procedure for establishing a fish pond (5mks)
24. (a) Describe the process of digestion in the rumen of a ruminant animal. (10mks)  
 (b) Explain practices observed in clean milk production (6mks)  
 c) State the cause of the following livestock diseases. (4mks)  
 (i) Gumboro  
 (ii) Swine fever  
 (iii) Fown pox  
 (iv) Fowl typhoid
25. (a) Sate the function of each of the following parts of a tractor transmitted system  
 (i) Clutch (3mks)  
 (ii) Gearbox. (3mks)

**KAPSABET BOYS  
 443/1 AGRICULTURE  
 PAPER ONE**

**SECTION A (30MKS)**

**Answer all questions in this section on spaces provided.**

1. Name two field management that are carried out to obtain optimum plant population in a crop field (1mk)
2. Give two factors which characterize small scale farming (1mk)
3. Give one examples of each of the following categories of water pipes  
 a) Metal pipes (1/2mk)  
 b) Horse pipes (1/2mk)
4. Name three forms of horticulture practiced in Kenya (1 1/2mk)
5. State four disadvantages of growing one type of crop on piece of land continuously (2mks)
6. Outline four qualities of a mother plant from which vegetative propagation material should be obtained (2mks)
7. State two ways in which crop rotation controls weeds (1mk)
8. Give two reasons for imposing quarantine on imported planting materials (1mk)
9. State two mechanical methods of separating soil particles according to sizes during soil analysis (1mk)
10. Name four settlement schemes that the Kenyan government started as a result of the success of the million Acre scheme (2mks)
11. State three practices which encourage soil erosion (1 1/2mks)
12. State four characteristics of a good vegetable seedling (2mks)
13. List four pose-harvest practices that are carried out in maize production (2mks)
14. List four environmental factors that affect crop production in Kenya (2mks)
15. Give four reasons for seed selection in crop production (2mks)
16. Give two benefits of top-dressing in management of grass pasture (1mk)
17. State four disadvantages of communal land tenure system (2mks)
18. State any two benefits a farmer would get by having correct plant population in the production of annual crops (1mk)
19. Define the term opportunity cost as used in economic (1mk)
20. State four pieces of information contained on a land title deed. (2mks)



**SECTION B (20MKS)**

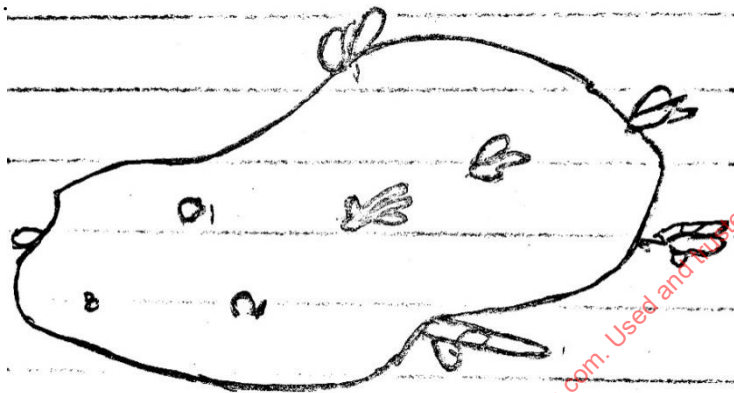
*Answer all questions in this section*

21. The table below shows PH value of different soil samples. Study it and answer the questions that follow.

Soil sample	PH value
S <sub>1</sub>	3
S <sub>2</sub>	4
S <sub>3</sub>	5
S <sub>4</sub>	6
S <sub>5</sub>	7
S <sub>6</sub>	8
S <sub>7</sub>	9
S <sub>8</sub>	10

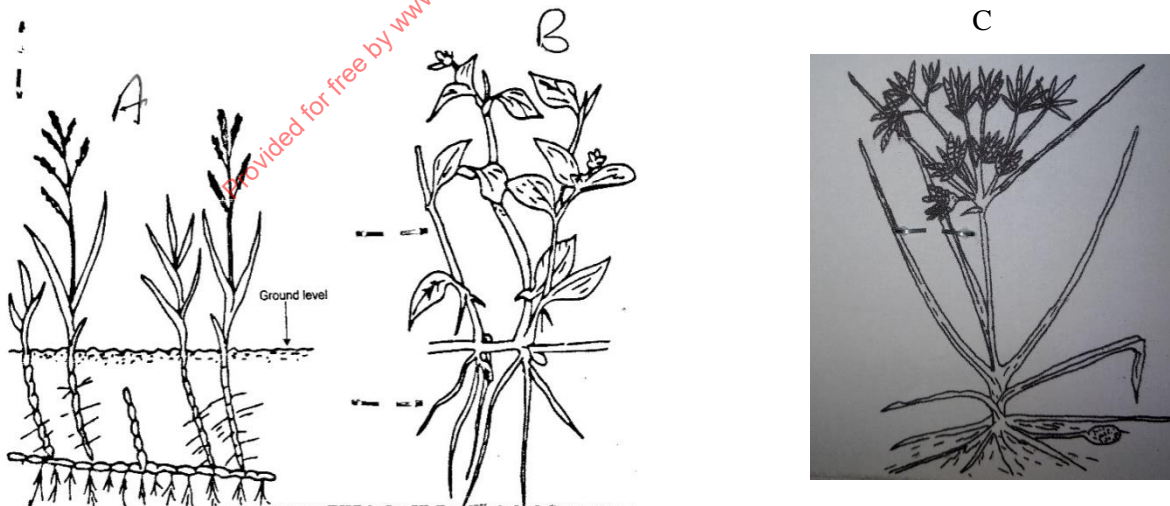
- a) Which soil sample has the highest acidity (1mk)
- b) Which soil sample has the lowest alkalinity (1mk)
- c) State two ways in which the PH value of sample 3 can be raised (2mks)
- d) Which of the above soil sample is suitable for growing maize (1mk)

22. The diagram below illustrates a seed potato prepared for planting. Study it carefully and answer the questions that follow.



- a) Name the practice used in preparing the seed potato above for planting (1mk)
- b) Describe the procedure followed in preparing seed potatoes for planting. (8mks)

23. Below are diagrams of common weeds found in a crop field, study them carefully and answer questions that follow.

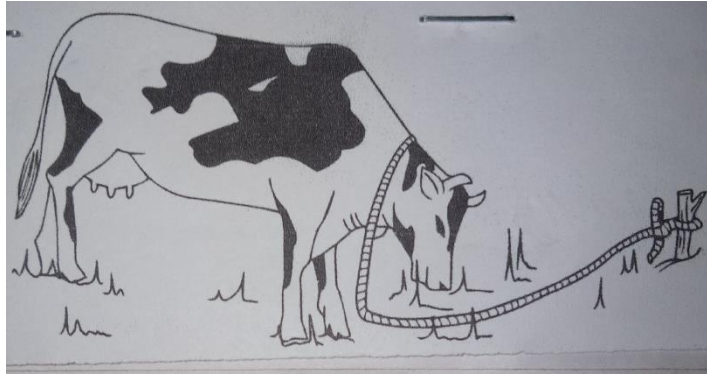


- a) Identify the weeds (3mks)
  - Weed A .....
  - Weed B .....
  - Weed C .....
- b) State one reason why weed A is difficult to control (1mk)

c) State one economic use of weed B

(1mk)

24. Below is a method used in pasture management. Study it carefully and answer questions that follow.



a) Identify the type of grazing shown above

(1mk)

b) State two limiting of the practice above

(2mks)

25. Below is a diagram of common pest found in the field. Study it carefully and answer questions that follows



a) Identify the pest

(1mk)

b) State the stage at which the pest attack maize

(1mk)

c) State one effect of the pest on crop production

(1mk)

**SECTION C (40MKS)**

*Answer any two questions only from this section*

26. a) Explain five ways in which biotic factors influence crop production in Agriculture

(10mks)

b) Explain four ways in which Government policy improves agricultural production

(4mks)

c) Describes the properties of Nitrogenous fertilizer

(6mks)

27. a) Describe the effects of pests on Beans in the field

(4mks)

b) Describe the production of cabbage under the following seed headings.

i. Seed bed preparation

(3mks)

ii. Transplanting of seedlings

(4mks)

c) Describe various nursery management practices carried out on cabbage seeding in the nursery

(5mks)

d) Describe how water is treated to remove solid impurities

(4mks)

28. a) Describe five ways in which a grass cover help to conserve soil

(5mks)

b) Describe maize production under following sub-headings.

i. Land preparation

(3mks)

ii. Planting

(6mks)

iii. Field management practices

(6mks)

**KAPSABET BOYS  
FORM FOUR TRIAL 2, 2019  
443/2 AGRICULTURE  
PAPER TWO**

**SECTION A (30MKS)**

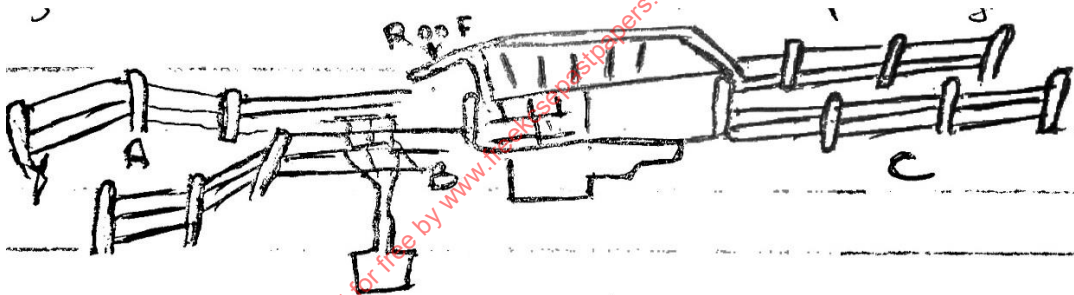
*Answer all questions in this section on spaces provided.*

1. State four non-chemical method used to control ticks (2mks)
2. Highlight two management practices carried out on a broody hen (2mks)
3. Give four characteristics of a good fish pond (2mks)
4. Mention four physical characteristics of exotic beef cattle breeds (2mks)
5. Give four features of calf pen that help to control calf diseases (2mks)
6. a) What is dry cow therapy (1mk)  
b) At what stage of gestation is dry cow therapy practiced (1mk)
7. Name four farm structures used for handling livestock (2mks)
8. Give four symptoms of respiratory disorder in a sick cow (2mks)
9. Mention two characteristics of abdomen of a poor layers (2mks)
10. Distinguish between mothering ability and prolificacy (2mks)
11. List two factors that can lead to conception failure after female cow has been served (2mks)
12. Give four factors that may lead to a farmer culling dairy cattle (2mks)
13. State four reasons for doing Agriculture as a discipline (2mks)
14. Name four tools that are used when laying concrete blocks during construction of a wall (2mks)
15. State four features on the animal which may pre-dispose it to livestock diseases (2mks)

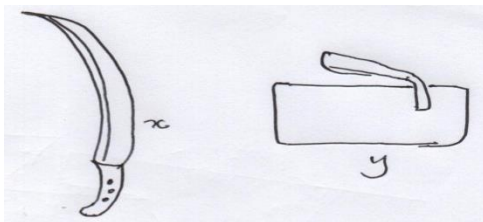
**SECTION B (20MKS)**

*Answer all the questions from this section.*

16. Diagram below show a plunge dip.



- a) Using a arrow on the diagram show the movement of cattle (½mk)
  - b) State one use of parts A, B and C (3mks)
  - c) State two precautions a farmer should take on dip to ensure effective dipping (2mks)
  - d) State two uses of the roof of the dip (2mks)
  - e) Apart from use of acaricides explain other methods used to control ticks (3mks)
17. a) i) Identify the tools below (1mk)



- ii) State the use of tools x and y (2mks)
- iii) Explain two maintenance practices carried on tool X (2mks)

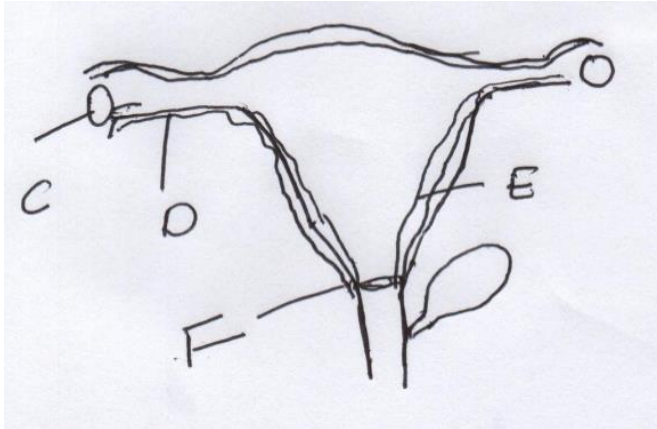


b) Name the tools used in conjunction of following tools

(2mks)

- i. Troca
- ii. Handdrill.....
- iii. Leadingstick
- iv. Mallet

18. a) Diagram below show reproductive system of a female cow



i. Name the part marked

(1mk)

D

F .....

ii. State the function of parts marked

(1mk)

C .....

E .....

b) At what stage should a gilt be mated?

(½mk)

**SECTION C (40MKS)**

*Answer ONLY TWO questions on answer booklets provided.*

19. a) Explain features of ideal calf pen

(6mks)

b) Outline various feeding practices a farmer undertake on calves up to weaning

(8mks)

c) Describe uses of water in the animals body

(6mks)

20. a) Describe mastitis disease under the following sub-headings

i. Causal organism

(1mk)

ii. Disease pre-disposing factors

(4mks)

iii. Symptoms

(3mks)

iv. Control measures

(6mks)

c) Describe factors to consider when culling a female (Cow) breeding stock

(6mks)

21. a) Describe the artificial rearing of layers chick from one day up to the end of brooding

(10mks)

b) Name three types of fences

(3mks)

c) Explain the procedure of establishing wire fence

(7mks)

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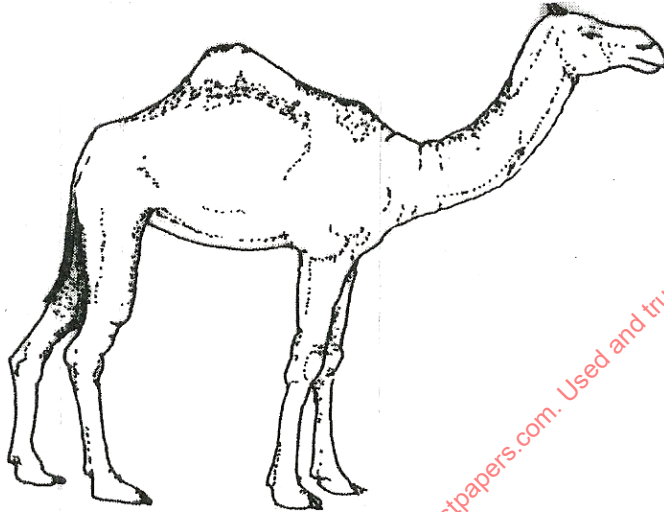
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- 12. Name two methods of acaricide application onto cattle. (1 mark)
- 13. Distinguish between inbreeding and line breeding as used in livestock production. (1 mark)
- 14. State four maintenance requirements of a jack plane. (2 marks)
- 15. State four practices that a farmer should carry out to reduce egg eating in poultry. (2 marks)
- 16. a) Give two features of a good laying nets. (1 mark)
- b) Give three reasons why a young calf must be fed on colostrums during the first few days of birth. (1 ½ mk)
- 17. State two reasons why calcium and phosphorus are important in the diet of young livestock. (1 mark)
- 18. Name two kinds of livestock which can be castrated using a rubber ring. (1 mark)

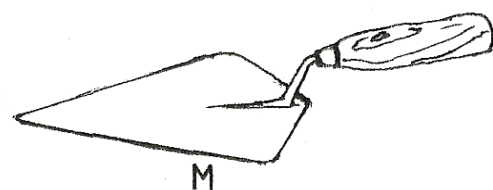
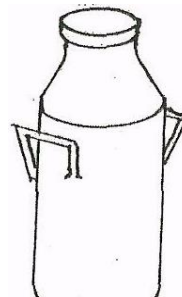
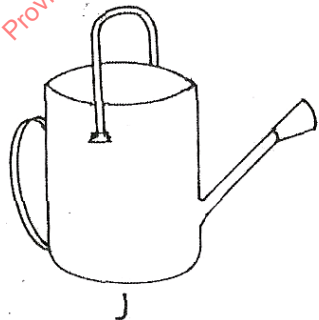
**SECTION B (20 marks)**

*Answer all the questions in this section in the spaces provided.*

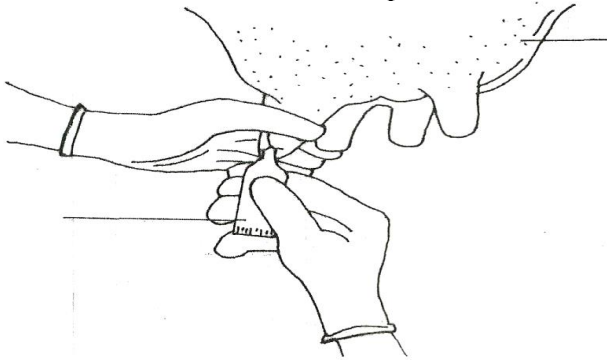
- 19 A dairyfarmer is required to prepare 100 kg of dairy meal containing 20% Digestible Crude Protein (D.C.P.). Using the Pearson's Square Method, calculate the quantity of soya bean (40% D.C.P.) and rice (16% D.C.P.) the farmer requires for the dairy meal. (4 marks)
- 20 Below is an illustration of a camel. Study it and answer the questions that follow.



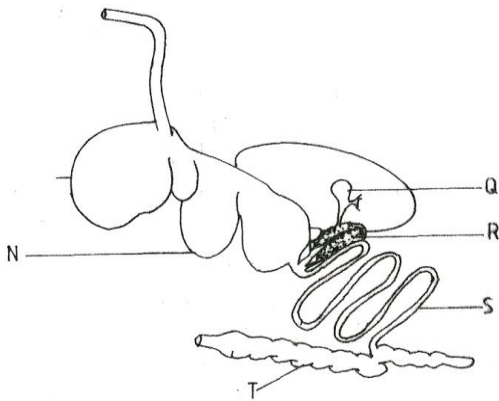
- (a) Identify the camel species illustrated above.
  - (b) Name **three** products that farmers obtain from the camel species illustrated above. (1 marks)
  - (c) Give two reasons why the camel species illustrated above is able to survive in its natural habitat. (2 marks)
- 21 The diagram below represents farm tools and equipment. Study them and answer the questions that follow.



- (a) Identify the tool equipment labelled J, K and M.  
 (b) State one use for each of the tool / equipment labelled K and L.  
 (c) Give **two** maintenance practices for the equipment labelled K. (1 mark)
- 22 The illustration below shows a practice carried out to prevent mastitis infection in a dairy cow.



- (a) Identify the practice. (1 mark)  
 (b) At what stage is the practice carried out? (1 mark)  
 (c) State **two** other practices that are carried out on the udder to prevent mastitis infection. (2 marks)
- 23 The diagram below shows the digestive system of cattle. Study it and answer the questions that follow.



- (a) Name the parts labelled N, I and Q. (3 marks)  
 (b) State one function for each of the parts labelled S and T. : (1 mark)  
 (c) Give **one** enzyme produced by each of the parts labelled R and S. (1 mark)

**SECTION C (40 MARKS)**

Answer **only two** questions from this section in the spaces provided

- 24.. a) Describe the features of ideal calf pen. (10marks)  
 b) Distinguish between cropping and harvesting as used in fish farming (2marks)  
 c) Describe the maintenance practices on a fish pond or describe management practices that would ensure maximum fish harvest from a fish pond. (8marks)
- 25 a) Discuss coccidiosis disease under the following headings  
 (i). Causal organism (1mark)  
 (ii). Livestock species attacked (4marks)  
 (iii). Symptoms of attack (4marks)  
 (iv). Control measures. (3marks)
- b) Describe the procedure of obtaining clean milk from a cow (10marks)
26. a)  
 i) Describe the life cycle of a two host tick (6marks)  
 ii) Describe digestion in a rumen of ruminant (8marks)  
 b) Explain three methods of acaricide application (6marks)

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**MALLET EVALUATION TEST - FORM FOUR 2019**  
**AGRICULTURE PAPER 1**

**SECTION A (30marks)**

1. Give two reasons why agriculture is looked as an artistic practice (2mks)
2. Outline two disadvantages of communal land tenure system (1mk)
3. Give three different types of soil water (1 ½ mks)
4. Give two ways of utilization of napier grass as a forage crop (1mk)
5. Give two signs of crop infestation by root nodes nemadotes (1mk)
6. Name two chemicals used in water treatment (1mk)
7. a) A farmer was advised to apply 210 kg of calcium of ammonium nitrate (CAN 21-0-0) per hectare. Calculate the amount of nitrogen required (2 mks)
- c) Different between fertilizer grade and fertilizer ratio (2 mks)
8. Give four biotic factors that influence agriculture (2mks)
9. a) Give reasons why land should be prepared early in readiness for planting (2mks)
- b) State reasons for deep ploughing during land preparation (2mks)
10. List two methods of land reclamation (2mks)
11. A form four student planted maize for her KCSE agriculture project. She use a spacing of 75cmx25cm; her plot was 4 x3m.
  - (i) What does 75cm stand for in this statement (1mk)
  - (ii) Calculate the plant population showing your working (3mks)
12. Name two pest with piercing and sucking mouth parts (1mks)
13. a) Explain the form changing the cycle in coffee growing (1mk)
- b) State two importance of tissue culture in crop production (1mk)
14. Why are leguminous plants preferred for green manure (1mk)
15. i) What is opportunity cost (1mk)
- ii. A farmer has an option of growing either wheat or maize in her one hectare of land. Wheat gives a return of Kshs. 20, 000 while maize fetches Kshs. 35, 000 in the market. If the farmer chooses to grow wheat, what will be the opportunity cost? (1mk)
16. State three control measures of maize streak disease (1.5mks)

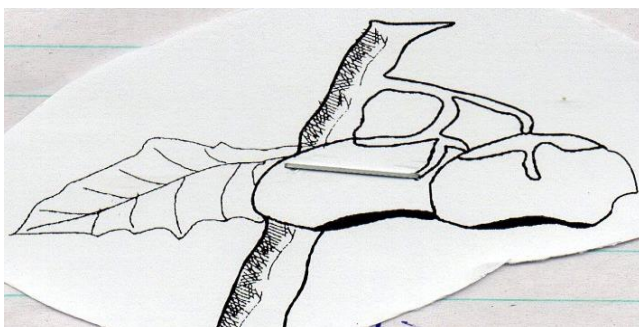
**SECTION B (20 MARKS)**

17. Below is a diagram of a type of soil structure. Study it and answer the question that follows.



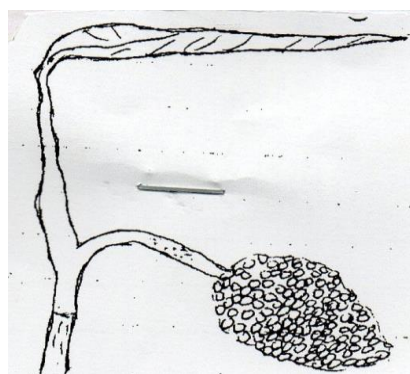
- a) Identify the soil structure illustrated above (1mk)
- b) Give one way in which the structure illustrated above limit crop production (1mk)

18. The diagram below shows a physiological condition in tomatoes use in the answer of the question that follows:



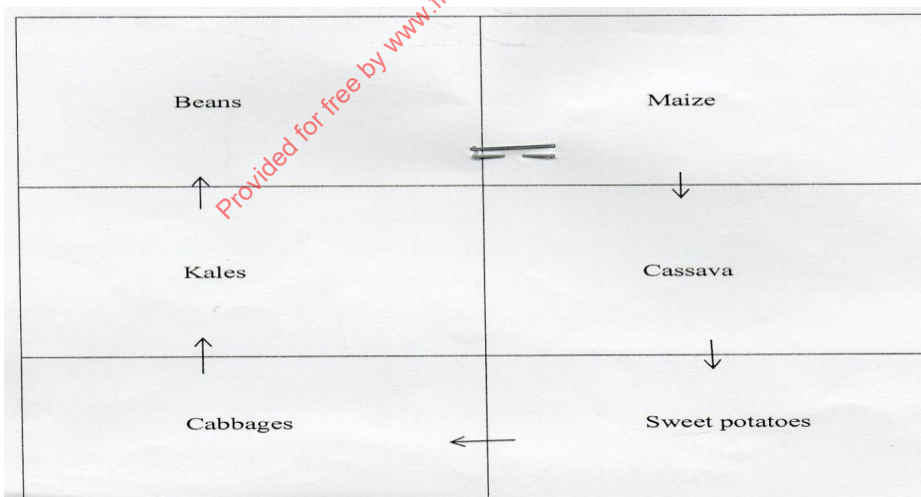
- a) Identify the disease (1mk)
- b) Give three control measures of the disease (3mks)

19. Study the diagram below carefully and answer the questions that follow.



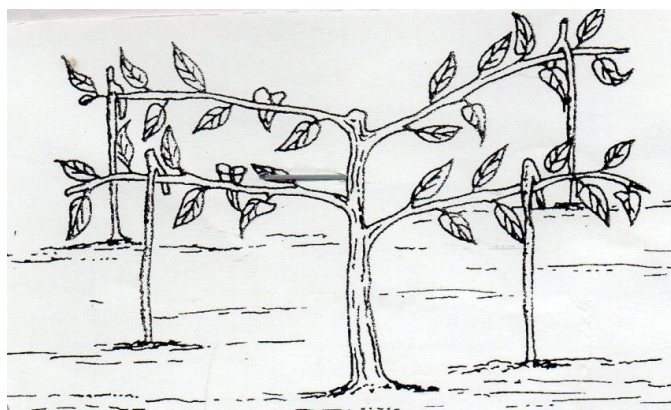
- a) Identify the variety of sorghum shown in the diagram (1/2mk)
- b) Name two types of pests whose damage can be controlled by planting the above named variety (2 mks)
- c) State two other measures used to control the pests named in b above (2mks)
- d) Name one disease that cause wilting of crops (1/2mks)

20. The illustration below shows a cropping programme.



- a) Identify the cropping programme (1/2 mk)
- b) Giving a reason identify one mistake the farmer made when designing the above programme (1/2mk)
- c) State two ways the above programme help in control of weeds (2mks)
- d) State two advantages of this programme (1mk)

21. Below is an illustration of a method of frames formation in tea. Answer the question that follows.



- a) Identify the above method. (1mk)
- b) Describe the procedure followed in (a) above (4mks)

**SECTION C (40 MKS)**

*Answer any two question in this section*

- 22. a) Describe field production of Napier grass under;-
  - i) Planting (5mks)
  - ii) Weed control (5mks)
- b) What are the advantages of mixed vgrass legume pasture over a pure grass pasture? (10mks)
- 23. a) Explain seven ways of breaking seed dormancy (7mks)
- b) Explain the factors that determine the choice of method for controlling pests and diseases in crop production (10mks)
- c) Describe the harvesting of sugarcane (3mks)
- 24. a) Explain why settlement schemes work established in Kenya soon after independence (10mks)
- b. Describe uses of farm records (10mks)

**MALIET 1 EXAMINATION - FORM FOUR 2019  
AGRICULTURE PAPER 2 2019.**

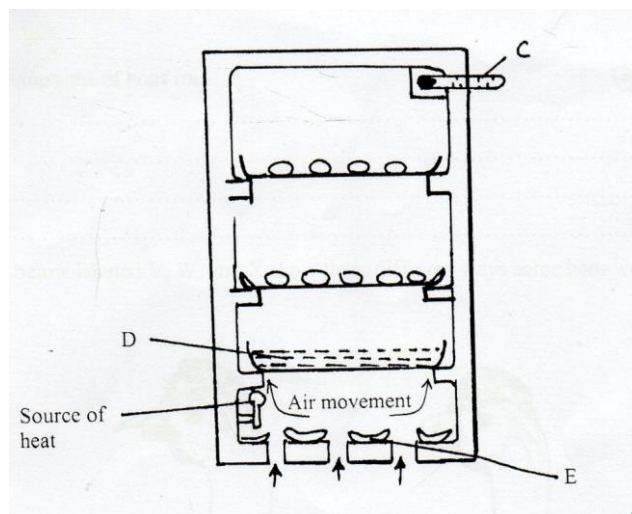
**Section A (30marks)**

- 1. Give two reasons for docking in sheep production. (1mk)
- 2. Give four ideal qualities of a good pen (2mks)
- 3. Outline four characteristics of Romney marsh sheep breed (2mks)
- 4. a) state two disadvantages of using metal frames in construction of farm buildings (1mk)
- b. Give two reasons for seasoning timber (1mk)
- 5. Outline four reasons for swarming of bees (2mks)
- 6. List two methods that can be used to preserve fish (1mk)
- 7. a What is a notiafiable disease (1mk)
- b. Name four examples of notifiable diseases in livestock (2mks)
- 8. Write two physical characteristics of saddle back breed in pigs (1mk)
- 9. State two characteristics of heavy poultry breeds (1mk)
- 10. List two maintenance practices of a wood chisel (1mk)
- 11. State four ways of controlling tsetse flies (2mks)
- 12. State four characteristics of livestock roughage feedstuff (2mks)
- 13. . List two equipments used in handling cattle during agricultural exhibition (1mk)
- 14. State the gestation period of the livestock animals given below
  - a. rabbit (½mk)
  - b. goat (½mk)
- 15. State four disadvantages of natural mating (2mks)
- 16. State one egg content added to it at the magnum during egg formation process (1mk)
- 17. State four methods used to control cannibalism in a deep litter system (2mks)

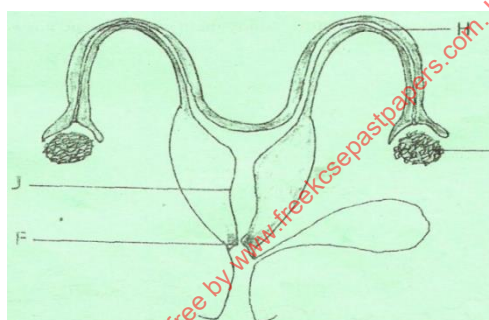
18. (a) Give three uses of Biogas in the farm (1 ½ mks)  
 i. State three reasons why the use of wind power on the farm is limited (1 ½mks)

**Section B: (20marks)**

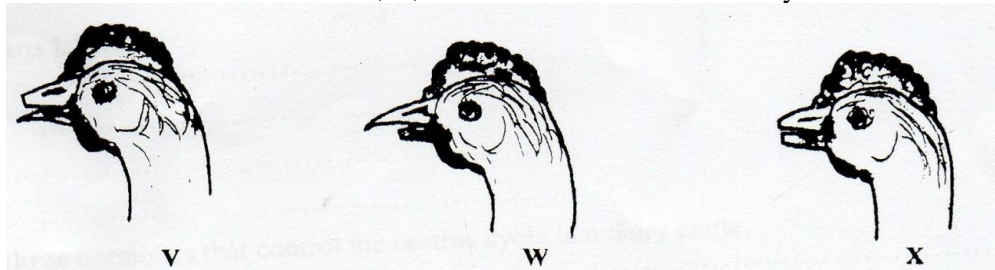
19. The illustration below represents equipment used in poultry production. Study it carefully and answer the questions that follow:



- i) Identify the equipment illustrated above. (1mk)  
 ii) Name the parts labeled C,D and E on the diagram of the equipment illustrated on the equipment in a ) above (1 ½mks)  
 iii) What are the functions of the parts labeled C,D and E (3mks)  
 iv) Why is it important to turn the eggs around 180 oc every 6-8 hours (1mk)
20. The diagram bellows shows the reproductive system of a cow. Study it and answer the questions that follow



- (i) Name the parts labeled J, F and H. (1.5mks)  
 (ii) State one function of each of the parts labeled J and H (1mk)  
 (iii) Name three reproductive hormones in dairy cattle (3mks)
21. (a) The illustrations below labeled V,W, and X show three different ways some hens were debeaked.





**BUURI EAST STANDARDS**

**443/1**

**AGRICULTURE**

**SECTION A: (30MKS)**

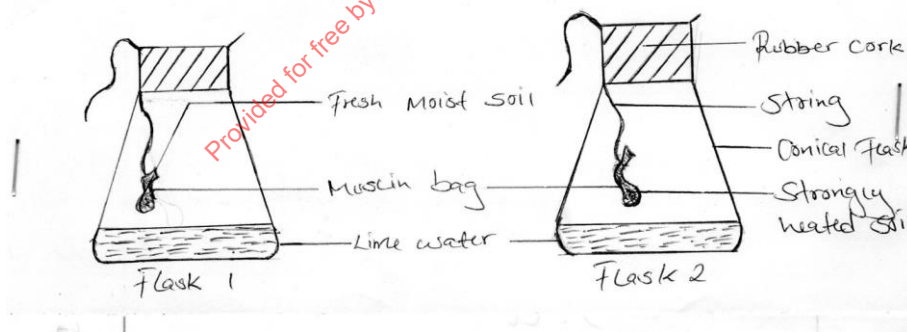
**Answer all the questions in this section.**

1. State four advantages of intensive system of farming. (2mks)
2. Give four conditions likely to facilitate land fragmentation. (2mks)
3. a) List four post-harvest practices done on crops. (2mks)  
b) What is earthing up in crop production. (1mk)
4. Give four reasons as to why burning as a method of bush clearing is not recommended. (2mks)
5. a) Give the form in which the following elements are available to plants (1mk)  
i) Nitrogen  
ii) Sulphur  
b. State two liming elements in crop production. (1mk)
6. State four effects of ill – health and HIV /AIDs in agricultural production (2mks)
7. State the functions of the following components in a compost heap. (2mks)  
i) Ash  
ii) Garden soil  
iii) Organic manure  
iv) Stick
8. State four factors that can enhance rooting in a stem cuttings. (2mks)
9. Outline four reasons a farmer should have breeding records in livestock production. (2mks)
10. Give four ways of treating water for use in the farm. (2mks)
11. Name four methods of harvesting trees. (2mks)
12. Give two methods of conserving forage. (1mk)
13. State four roles of young farmers clubs in Kenya. (2mks)
14. a) Distinguish between farm planning and farm budgeting. (1mk)  
b) Name two sources of capital in the farm. (1mk)
15. State four advantages of budding. (2mks)

**SECTION B:(20MKS)**

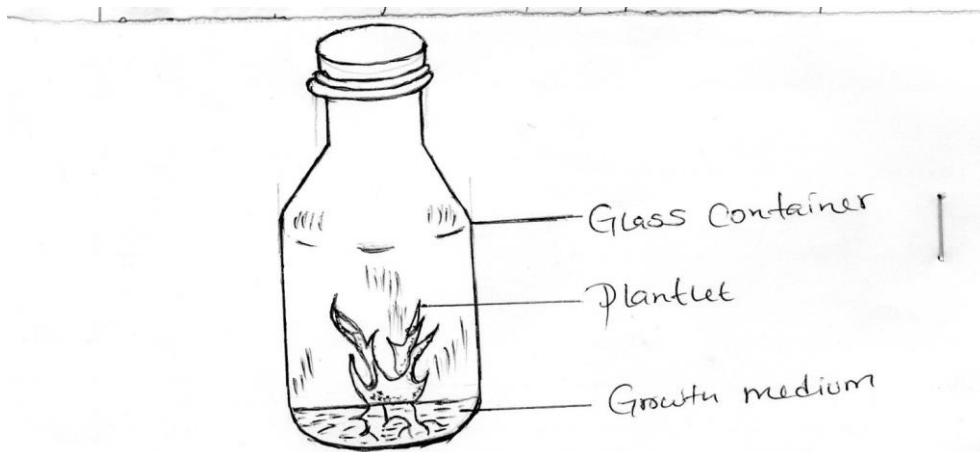
**Answer all questions in this section.**

16. The diagrams below show an experiment that was carried out by Mwatate agriculture students. Study it carefully and answer the questions that follow

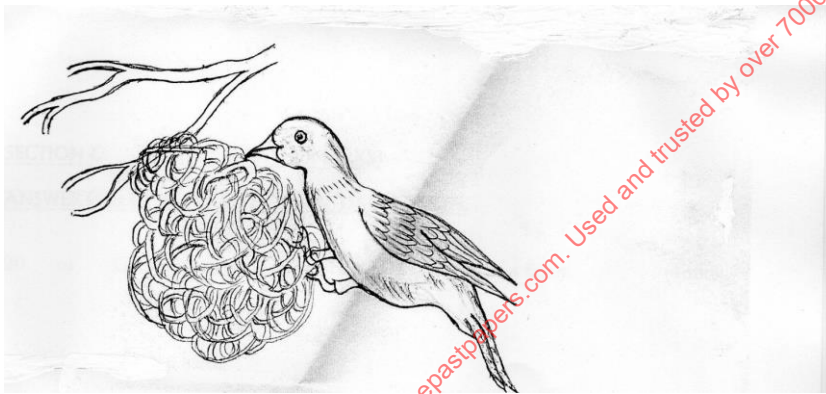


- a) What was the aim of the experiment. (1mk)
- b) What observation did the students make in the two flasks at the end of the experiment. (2mks)  
Flask 1.....  
Flask 2.....
- c) Give a reason for the observation made in flask 1 (1mk)
- d) Why did the students heat the garden soil in flask 2 strongly? (1mk)

17. The diagram below illustrates materials, and a method of vegetative propagation. Study it and answer the questions that follow.



- i) Identify the method of propagation illustrated above. (1mk)
  - ii) Name a common crop propagated through the method. (1mk)
  - iii) Give three disadvantages of this method of propagation. (3mks)
18. The diagram below shows a bird which is a field crop. Study it and answer the question that follow.



- a) Identify the pest (1mk)
  - b) State two damages caused to crops by the pest. (2mks)
  - c) Give two methods which can be used to control the pest. (2mks)
19. a) Given that the spacing of coffee is 2.7m by 2.7m, calculate the plant population in 1 hectare (Ha) of land (2mks)
- b) Give three reasons why crops should be planted at the correct spacing (3mks)

**SECTION C:(40MARKS)**

**ANSWER ONLY TWO QUESTIONS IN THIS SECTION.**

- 20. a) List various methods of harvesting water in a farm. (4mks)
  - b) Outline farming activities which may encourage soil erosion. (6mks)
  - c) Explain five farming practices that would help to conserve soil. (10mks)
21. Describe the field production of tomato under the following sub – headings
- i. Seedbed preparation (3mks)
  - ii. Transplanting (5mks)
  - iii. Fertilizer application (2mks)
  - iv. Pruning (2mks)
- b) Explain how various field practices carried out in crop production would help to control diseases.(6mks)

22. Maboya farm started the year on and as at 31/12/2018 had following transactions.

Sale of poultry	5,000.00
Opening valuation	10,000.00
Purchase of seeds	2,800.00
Purchase of fertilizer	2,000.00
Sale of beans	1,200.00
Sale of vegetables	500.00
Closing valuations	15,000.00
Casual labourers (wages)	2,500.00
Depreciation (tractors)	500.00
Interest (borrowed laon)	400.00
Purchase of day old chicks	800.00
Sale of milk	6,000.00
Purchase of calves	10,000.00
Miscellaneous expenses	1,000.00

- a) Prepare a profit and loss account for Maboga farm. (10mks)  
 b) Did the farm qualify for credit? Give one reason for your answer. (2mks)  
 c) Explain four roles of agriculture in national development (8mks)

## BUURI EAST STANDARDS

443/2

### AGRICULTURE

JULY, 2019

#### SECTION A:(30MKS)

Answer all the questions in this section in the spaces provided.

- Give four categories of infectious diseases in livestock. (2mks)
- Name 4 methods of identification used by livestock farmers. (2mks)
  - State 4 reasons for carrying out identification of animals. (2mks)
- Distinguish between the following breeds of livestock. (2mks)
  - Large white and landrace
  - Newzeland white and California white
- Define the term digestability. (1mk)
  - State two factors that determine the amount of food given to an animal (1mk)
- State 4 causes of vices in poultry (2mks)
- Name 4 notifiable diseases in cattle. (2mks)
- State 4 a routes through which disease causing micro – organisms enter the animals body. (2mks)
- State 4 structural features of ideal calf pen. (2mks)
- Name three types of lubrication systems. (1 ½ mks)
- Name the tool required for each of the following operation. (2mks)
  - Cutting wool from sheep
  - Castrating piglet
  - Cutting threads of metallic pipes
  - placing mortar between construction stones.
- State 4 effects of external parasite attack to livestock. (2mks)
- Name two causes of chicken laying soft – shelled eggs or eggs without Shells. (1mk)
  - How can the above problem be overcome in birds. (1 ½ mk)
- Name four qualities of clean milk. (2mks)
- Give three methods used in selection of livestock. (1 ½ mks)
- State the functions of the following in a petrol engine. (1 ½ mks)

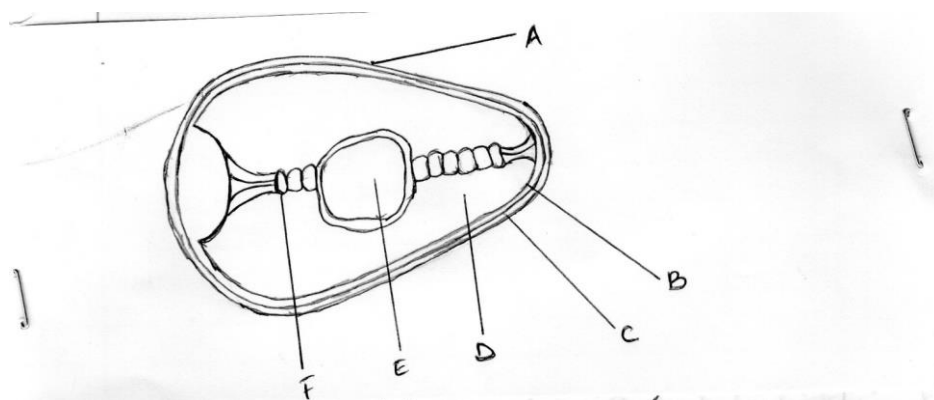


- i) Carburetor
- ii) radiator
- iii) thermostat

**SECTION B: (20MKS)**

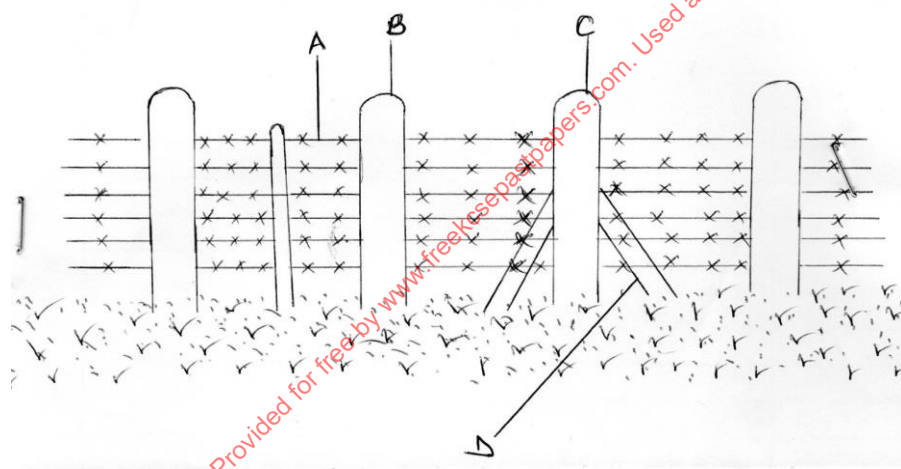
**Answer all the questions in this section in the spaces provided.**

16. The diagram below is an illustration of an egg. Study it carefully and answer the questions that follow.



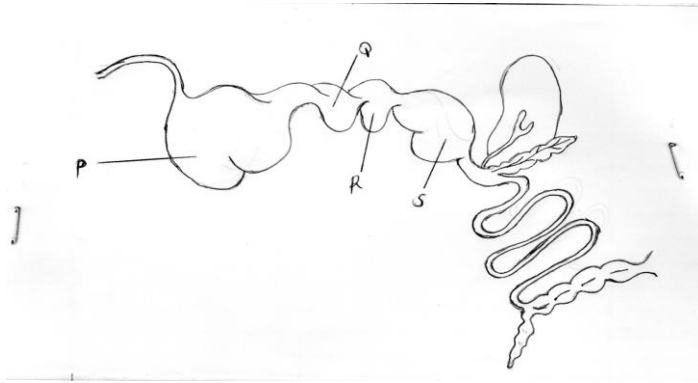
- a) Name the parts labelled B, C, D and F (2mks)
- b) State two qualities of the part labeled A that should be considered when selecting eggs for incubation. (2mks)
- c) What is the function of the part labelled E in a fertilized egg? (1mk)

17. The diagram below represents an important farm structure study it and answer the questions that follow.



- i) Identify the farm structure. (1mk)
- ii) label the parts A, B, C, D (2mks)
- iii) State two maintenance practices carried out in the structure above (2mks)

18. Study the diagram of the digestive system of a farm animal shown below and answer the question that follow.



- a) Name the parts labelled (2mks)
  - b) State the function of the part labelled R (1mk)
  - c) Give two reasons why livestock with the above parts are able to digest cellulose food material. (1mk)
  - d) In which part would nylon paper be found if fed on by an animal with the above digestive system. (1mk)
19. a) A dairy cow weighing 400kg live weight requires 3% of its body weight dry matter (Dm per day). However the cow only gets 50% of its daily Dm requirements from grazing field. How much concentrates (80% dm) should the farmer supplement to its dairy requirements. Show your workings. (3mks)
- b) Give two effects of overstocking in pasture management. (2mks)

**SECTION C : (40 MARKS)**

**Answer any two questions in this section.**

- 20. a) Explain five factors to consider when selecting a breeding stock. (10mks)
- b) Describe the general methods of disease control in livestock. (10mks)
- 21. a) Discuss foot and mouth disease under the following headings:
  - i) Casual organisms (1mk)
  - ii) Livestock species attacked (2mks)
  - iii) Symptomts of attack (4mks)
  - iv) Control measures (3mks)
- b) Describe the life cycle of one host tick. (10mks)
- 22. a) Differentiate between Disc plough and mould board plough. (5mks)
- b) State five disadvantages of animal – drawn implements as compared to tractor – drawn implements. (5mks)
- c) Explain five reasons for maintaining farm tools and equipments. (10mks)

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**COMPLIANT AGRICULTURE**

**Paper 1**

**FORM FOUR END OF TERM TWO EXAM 2019**

**SECTION A : (30 MARKS)**

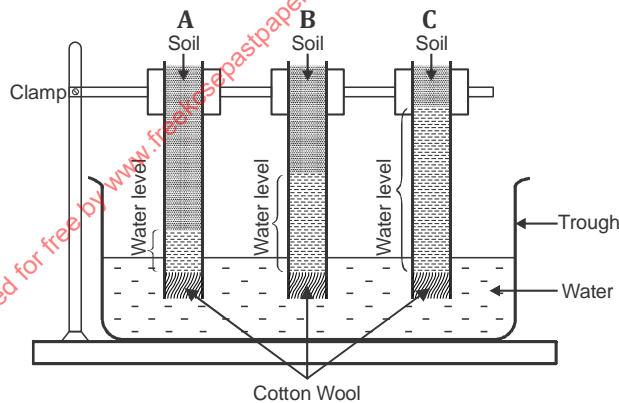
Answer all the questions in this section in the spaces provided.

1. a) Define the term "Hardening Off" in nursery management. (½ mark)
- b) State two ways of Hardening Off crops in the field. (1 mark)
2. State four factors to consider when selecting a seedling for transplanting. (2 marks)
3. Name four characteristics of ranching. (2 marks)
4. Give two ways in which cover cropping controls soil erosion. (1 mark)
5. a) Name two ways of classifying weeds. (1 mark)
- b) Give four disadvantages of mechanical weed control. (2 marks)
6. State four importance of drainage as a land reclamation method. (2 marks)
7. Give four reasons for use of clean water in agriculture production. (2 marks)
8. State four qualities of farm manager. (2 marks)
9. Name four reasons for drying maize before storage. (2 marks)
10. State four information contained in health records. (2 marks)
11. Differentiate between Afforestation and Reafforestation. (1 mark)
12. a) Define organic farming. (½ mark)
- b) Name four practices that can be used in organic farming. (2 marks)
13. State two influences of soil pH on crop production. (1 mark)
14. State four ways of acquiring land for agricultural use. (2 marks)
15. Give four roles of phosphorous in crop production. (2 marks)
16. Name two advantages of earthing up in crop production. (1 mark)
17. Name two field practices that maintain optimum plant population. (1 mark)

**SECTION B : (20 MARKS)**

Answer all questions in this section in the spaces provided.

18. Below is an experiment set up by students to determine an aspect of soil.



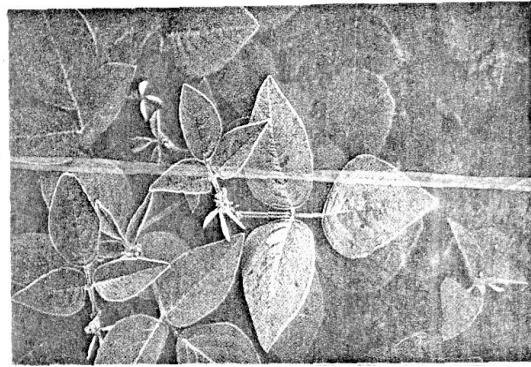
- a) State the aim of the experiment. (1 mark)
  - b) Name soils A, B and C (1½ marks)
  - c) Name two ways of improving soil A (2 marks)
19. Given the spacing of cabbage is 60cm x 60cm. Calculate the plant population from a land measuring 4m x 3m. Show your working. (3 marks)

20. a) Below are photographs of pastures. Identify P and Q. (1 mark)

P



Q



P .....

Q .....

b) Name three reasons why a pasture may fail to establish. (3 marks)

c) Name three methods of forage conservation. (1½ marks)

21. State the functions of the following during preparations of a compost pit. (2 marks)

a) Maize stalks

b) Ash

22. a) What is a profit and loss account. (1 mark)

b) Prepare a profit and loss account for Tembos farm for the year ended 31st December 2000 from the information given below. (4 marks)

Payment of casuals	8000
Bought animal feeds	7000
Sold a heifer	8500
Bought fungicides	4000
Sold cabbages	5900
Sold bullocks	10,000
Bought computer	9000
Closing valuation	9600
Opening valuation	3000

**SECTION C : (40 MARKS)**

Answer any two questions in this section in spaces provided after question 25

23. a) Describe six physical methods of disease control in crops. (6 marks)

b) Name four symptoms of viral diseases in crops. (4 marks)

c) Describe water treatment process. (10 marks)

24. a) Describe the procedure for harvesting of sugarcane. (5 marks)

b) Explain three functions of National Cereals and Produce Board (NCPB) (3 marks)

c) Explain the contributions of agriculture to national development. (5 marks)

d) Describe seven agricultural support services available to farmers. (7 marks)

25. Describe finger millet production under the following sub-headings:

a) Land preparation (4 marks)

b) Field management practices (4 marks)

c) State five ways in which farmers adjust to risks and uncertainties in farming. (5 marks)

d) Describe the effects of HIV/AIDS on agricultural production. (4 marks)

e) State three farming practices that can improve soil structure. (3 marks)

**COMPLIANT AGRICULTURE  
AGRICULTURE  
Paper 2  
July/August 2019**

**SECTION A : (30 MARKS)**

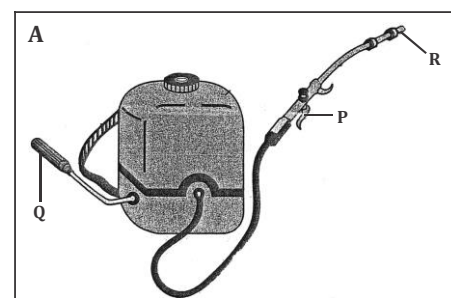
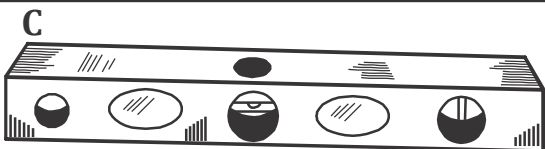
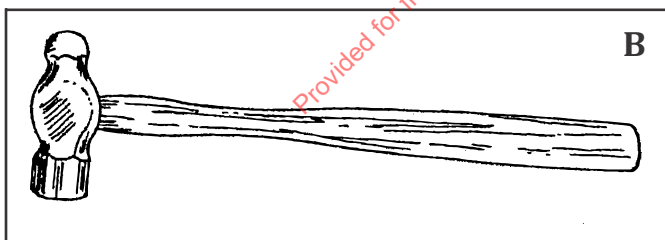
Answer all the questions in this section in the spaces provided.

1. State five categories of farm tools and equipment. (2½ marks)
2. Identify the following animals in terms of age and sex. (2 marks)
  - a) Steer
  - b) Boar
  - c) Doe
  - d) Pullet
3. Name three methods of increasing ploughing depth of a disc plough. (1½ marks)
4. Give three differences between a Dromedary and Bactrian camels. (1½ marks)
5. State four disease predisposing factors outside the body of an animal. (2 marks)
6. Name two ways through which good nutrition can help to control diseases in livestock. (1 mark)
7. State four methods of controlling tse tse flies in livestock. (2 marks)
8. Differentiate between maintenance ration and production ration as applied in livestock production. (1 mark)
9. State four characteristics of succulent roughages. (2 marks)
10. Name three pest that attack bees. (1½ marks)
11. State two practices that would make birds busy in a deep litter house. (1 mark)
12. State four advantages of free range rearing poultry system. (2 marks)
13. State four control measures of cannibalism in poultry. (2 marks)
14. Name two features of a gizzard that enables it to crush and grind food in poultry. (1 mark)
15. State four materials required to prepare artificial colostrum. (2 marks)
16. State two methods of caponization in poultry. (1 mark)
17. Define the term 'cropping' as used in fish production. (2 marks)
18. State four methods of administering vaccines into animals body. (2 marks)

**SECTION B : (20 MARKS)**

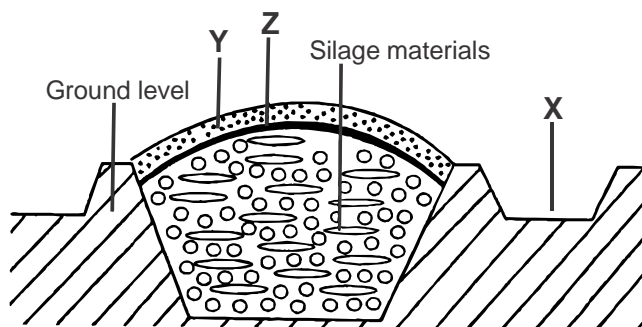
Answer all the questions in this section in the spaces provided.

19. Below are diagrams of farm tools and equipment.



- a) Identify the equipment and tools. (1½ marks)
- b) State one function of tool C. (1½ mark)
- c) Label the parts P, Q and R on equipment A. (2 marks)
- d) State four maintenance practice of equipment A. (2 marks)

20. The diagram below is of a trench silo.



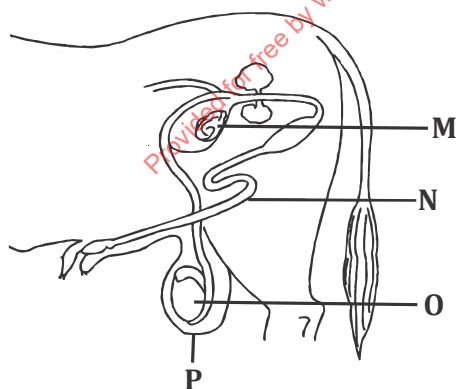
- a) Label parts (1½ marks)
- b) State the functions of part labelled Z (1 mark)
- c) Other than a trench silo, name two other types of silos. (1 mark)

21. Below is a diagram of a parasite which attacks livestock.



- a) Identify the parasite above. (½ mark)
- b) List two harmful effects of parasite above. (2 marks)
- c) List one control measure of the above parasite. (1 mark)

22. The diagram below shows a reproductive system of a bull.



- a) Label the parts M, N, O, P (2 marks)
- b) State one function of each parts labelled M and O (2 marks)
- c) State three disadvantages of natural mating. (3 marks)



**SECTION C : (40 MARKS)****Answer any two questions in this section in the spaces provided after question 25.**

23. a) Describe the short term services on a tractor. (6 marks)
- b) State the functions of the following parts in a tractor fuel transmission system.
- i) Carburettor (1 mark)
- ii) Fuel filter (1 mark)
- c) i) List the various materials used in construction of a pigsty. (3 marks)
- ii) Explain six factors to consider when sitting a pigsty. (6 marks)
- d) Give three advantages of using stones as building materials. (3 marks)
24. a) Outline the factors that contribute to distribution of livestock in Kenya. (6 marks)
- b) Describe six symptoms of roundworm infestation in a calf. (6 marks)
- c) Give six differences between ruminants and non-ruminants. (6 marks)
- d) List two reason for steaming up of a dairy goat. (2 marks)
25. a) Explain five advantages of embryo transplant. (5 marks)
- b) Describe African swine fever disease under the following sub-headings.
- i) Causal organism (1 mark)
- ii) Three modes of transmission (3 marks)
- iii) Four symptoms of attack (4mark)
- iv) Four control measures (4 marks)
- c) Explain three problems affecting marketing of milk in Kenya. (3 marks)

**COMPLIANT AGRICULTURE****AGRICULTURE****Paper 1****SECTION A :**

1. a) Hardening off in nursery management  
Practice of preparing seedling to adapt to ecological condition prevailing in the main seed bed  $\frac{1}{2}$  mark
- b) Two ways of hardening off
- Gradual reduction of shade
  - Gradual reduction of watering
- $2 \times \frac{1}{2} = 1mk$
2. State four factors to consider when selecting a seedling for transplanting
- Vigorous growth
  - Pest and disease free (healthy)
  - Four-six true leaves
  - 10-15cm height
- $4 \times \frac{1}{2} = 2mks$
3. Characteristics of ranching
- Has water points
  - Fenced (confinement of livestock)
  - Control of parasites efficiently done
  - controlled breeding
  - Livestock products are of high quality
  - Supplementary feeding can be done
- $4 \times \frac{1}{2} = 2mks$
4. Cover cropping controls soil erosion by
- Reducing the speed of surface run off
  - Trapping / filtrating soil
  - Roots binding soil particles together
  - Reducing the impact or splash erosion



**MERU SOUTH**  
**443/1**  
**FORM 4 AGRICULTURE**  
**PAPER 1**  
**JULY/AUGUST**

**SECTION A (30 MKS).**

**ANSWER ALL QUESTIONS IN THE SPACES PROVIDED**

5. Give four benefits of practicing organic farming. (2mks)
6. Give four reasons why land should be prepared early in readiness for planting. (2mks)
7. List three particulars of the land owner which are included in the land title deed. (1 ½ mks)
8. Name three ways of carrying out overhead irrigation in the farm. (1 ½ mks)
9. Outline four indicators of well rotten compost manure. (2mks)
10. Give four advantages of rotational grazing. (2mks)
11. List four ways through which soil PH influences crop production. (2mks)
12. Give two reasons for carrying out each of the following operations in the land.
  - a) Rolling (1mk)
  - b) Levelling (1mk)
13. Give four characteristics of variable inputs. (2mks)
14. State three ways by which plant nutrients may be lost from the soil (1 ½ mks)
15. Give two activities carried out during hardening off tomato seedlings. (1mk)
16. List down four types of financial books farmers should keep. (2mks)
17. Outline four factors that affect the effectiveness of a pesticide. (2mks)
18. Give four factors that affect the quality of silage. (2mks)
19. Differentiate between soil texture and soil structure. (1mk)
20. Give three reasons why seed selection is important in the establishment of crops. (1 ½ mks)
21. State four factors that affect elasticity of demand. (2mks)

**SECTION B (20MKS)**

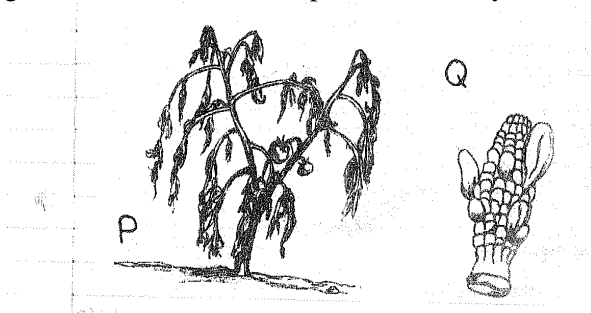
**ANSWER ALL QUESTIONS IN THE SPACES PROVIDED.**

22. The transaction below shows Mr Mukindias financial position in his farm business for the year 2004.

Ksh	
Purchase of pesticides	3,000
Milk sales	8,000
Sale of goats	5,000
Closing valuation	16,000
Interest payable	1,750
Veterinary bills	1,400
Opening valuation	12,000
Wages	10,000
Depreciation of machinery	3,000
Sale of one heifer	1,000

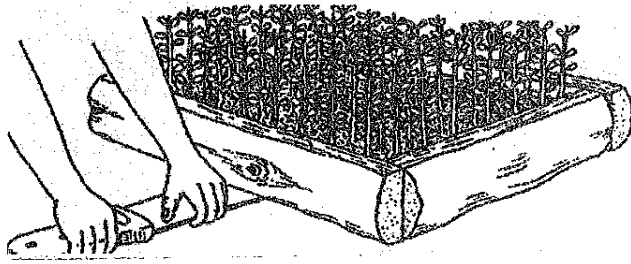
Prepare a profit and loss account for Mr Mukindia's farm. (5mks)

23. The diagram below illustrates crop diseases, study the diagrams carefully and answer the questions that follow.

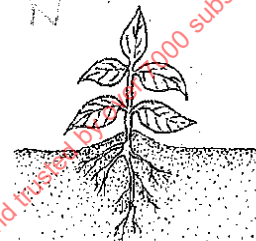
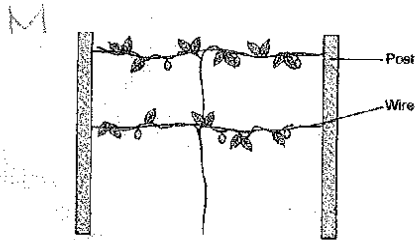


- a) Identify the crop disease illustrate in the diagrams. (2mk)
- b) Give the causative agent for each of the diseases illustrated above.

- c) State one cultural method used in the control of disease illustrated by Q. (1mk)
20. Below is an illustration of an activity carried out in agroforestry.



- a) Identify the activity being carried out in the above diagram. (1mk)
- b) State two reasons for carrying out the activity identified above. (2mks)
- c) Name two tools that may be used to carry out the activity in (a) above. (2mks)
21. The diagrams below illustrate field management practices. Study them carefully and answer the questions that follow.



- a) Identify the field practices. (1mk)
- b) Name a crop that can be managed using management (M) above. (1mk)
- c) Give one reason for carrying out each of the management practices above. (2mks)

**SECTION C (40MKS)**

**ANSWER ANY TWO QUESTIONS IN THE SPACES PROVIDED.**

- 22 a). State and explain any five cultural method of controlling weeds. (10mks)
- b) Outline six ways in which wind negatively affects agricultural production. (6mks)
- c) Explain four factors that influence the depth of planting crops. (4mks)
- 23 a) Explain eight factors that encourage soil erosion. (8mks)
- b) Describe seven management practices that should be carried out on a vegetable nursery after sowing until the seedlings are ready for transplanting. (7mks)
- c) Describe the harvesting of sugarcane. (5mks)
- 24 a) Outline the characteristics of ideal agro-forestry tree species. (6mks)
- b) Describe the establishment of cabbages under the following subheadings.
- i) Land preparation (3mks)
- ii) Transplanting (7mks)
- c) Explain the harvesting of bulb onions. (4mks)

**MERU SOUTH**  
**443/2**  
**AGRICULTURE**  
**PAPER 2**  
**JULY/AUGUST**

**SECTION A (30 MKS)**

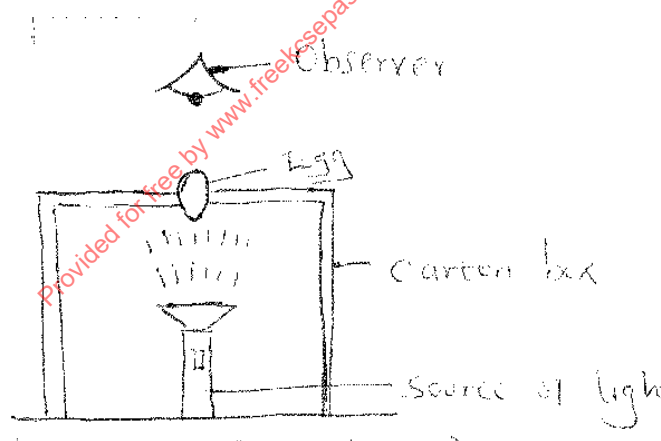
**ANSWER ALL QUESTIONS IN THE SPACES PROVIDED.**

1. State three harmful effects of ticks on a cow (1½mks)
2. Outline four ways which farmers can control mastitis in a herd of dairy animals. (2mks)
3. Name three channels through which Kenyan beef farmers can market their products. (1½ mks)
4. Differentiate between drift lambing and pen lambing in sheep management. (2mks)
5. a) Outline two factors that lower the quality of concrete. (1mk)  
 b) Give two reasons for treating timber for construction of a farm building. (1mk)
6. A student from Macmillan Academy saw a brown cow with a white patch on the face, leg, parts below the knees and hocks, tail switch and flanks. Identify the breed of the cow. (1 ½ mks)
7. Give three functions of the rumen in food digestion in cattle. (1 ½ mks)
8. Name four tools that are used when laying foundation of a farm building. (2mks)
9. State four factors considered when siting a fish pond. (2mks)
10. State the functional difference between a cold chisel and tin snip. (1mk)
11. Give four benefits a farmer gets by dehorning his cattle. (2mks)
12. State four characteristics of the African wild bee. (*Apis mellifera adansonii*) (2mks)
13. State four factors considered in selecting a gilt for breeding stock. (2mks)
14. Name four methods of identification in livestock. (2mks)
15. Distinguish between crutching and ringing as used in sheep management. (2mks)
16. State four factors affecting digestibility in livestock. (2mks)
17. Outline four details that should be included a pig breeding record. (2mks)

**SECTION B (20MKS)**

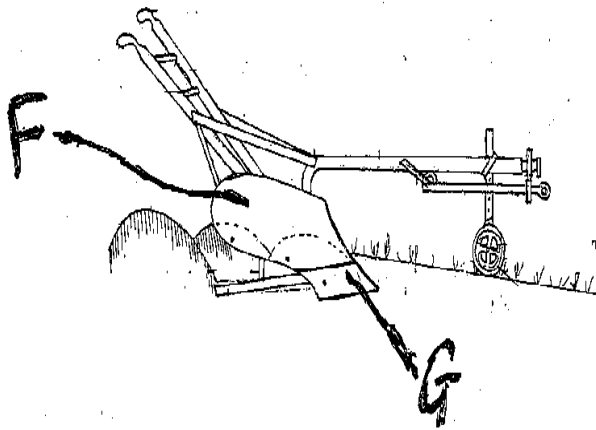
**ANSWER ALL QUESTIONS IN THE SPACES PROVIDED.**

18. The diagram below shows a practice carried out in poultry production.



- a) Identify the practice. (1mk)
- b) Give two abnormalities in an egg that can be observed when using the practice. (2mks)
- c) Give two observations of a fertile egg that can be observed after seven days when using the practice above. (2mks)

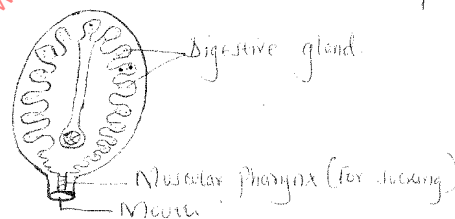
19. The following is an illustration of an ox-plough, use it to answer the questions that follow.



- a) Name the parts labeled F and G
  - b) State the function of the parts labeled F and G
  - c) List two situations in which the above implement would be more useful than a tractor. (2mks)
20. The diagram below illustrates a calf rearing practice.



- a. Identify the practice illustrated above. (1mk)
  - b. Give one precaution taken while using the rearing practice stated in (a) above. (1mk)
  - c. Enumerate three advantages of carrying out above practice. (3mks)
21. The following is an illustration of an internal parasite.



- a) Identify the parasite. (1mk)
- b) Name the final host of the above parasite. (1mk)
- c) Describe the control measures of the above parasites. (3mks)

**SECTION C (40MKS)**

**ANSWER ANY TWO QUESTIONS IN THIS SECTION IN THE SPACE PROVIDED.**

- 22. a) Explain the problems that affect dairy farming in Kenya. (6mks)
- b) Describe five management practices that ensure clean milk production in a dairy farm. (5mks)
- c) Describe milk fever disease under the following subheadings.
  - i) Animals attacked. (2mks)
  - ii) Symptoms (4mks)
  - iii) Control measures (3mks)
- 23. a) Describe causes of egg eating in a flock of layers. (6mks)

**GATUNDU SOUTH SUB-COUNTY JOINT EVALUATION EXAMINATION 2019.**

443/1

**AGRICULTURE.  
PAPER 1.**

**SECTION A (30 MARKS)**

**ANSWER ALL QUESTIONS**

1. a) Give two advantages of organic farming in regard to environmental conservation (1mark)  
b) State two importance of ridging (1mark)
2. State the three economic conceits (1 ½ marks)
3. List down three types of nurseries in crop production (1 ½ marks)
4. State four harmful effects of weeds in pasture production and livestock nutrition (2 marks)
5. Agriculture is said to be source of market for some industrial products. Name four such products (2 marks)
6. List four factors which should be considered when determining the depth of planting maize seeds (2 marks)
7. After soil analysis, a farmer was informed that his soil needed 20 kg (N) per hectare .How much of urea 45% (N) did he apply to satisfy nitrogen needs in his 5 hectares of farm (3 marks)
8. Describe four different problems brought by water on the farm (2 marks)
9. (a) List down four important details in a tittle deed. (2 marks)  
(b) Define the term “individual tenure system” (1 marks)
10. (a) Name four types of financial documents (2 marks)  
(b) Name four sources of capital available to the Kenya farmer for agriculture production. (2 marks)
11. Give four reasons why needs out-complete crops in the field (2 marks)
12. Name four types of lands which may be reclaimed. (2marks)
13. (a) List down four basis of herbicides application. (2 marks)  
(b) Outline two methods of pruning (1 mark)

**SECTION B.**

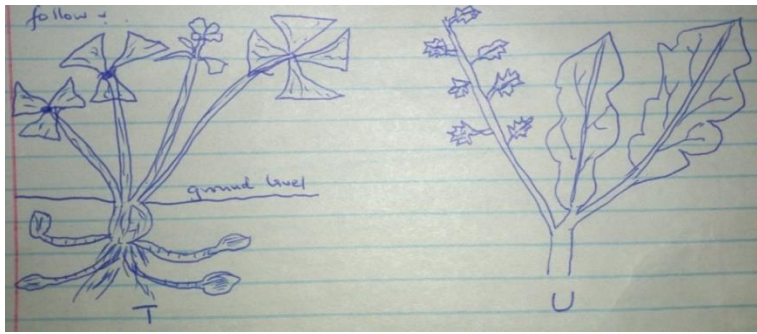
**Answer all questions**

14. The following information was found in Tumu’s farm for the year ended 31:12:2018.

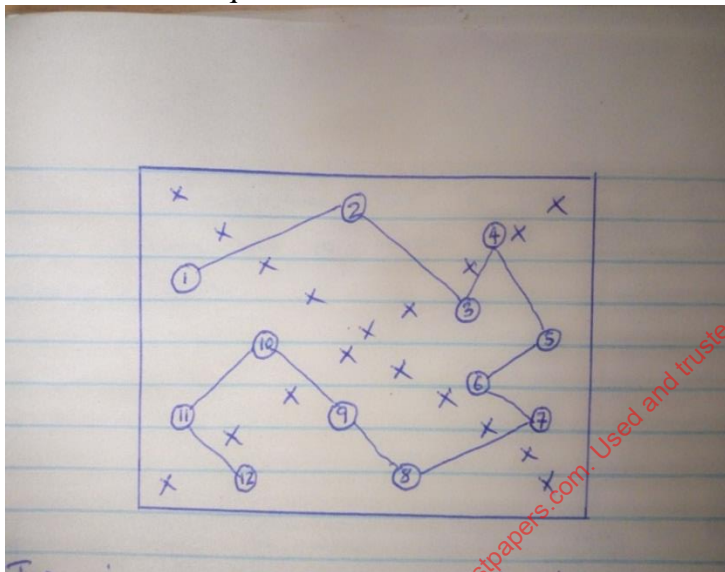
	K SH
Dairy cattle	25000.00
Maize in stoke	10000.00
buildings	150000.00
Fertilizer in stoke	3000.00
Wool sheep	15000.00
Pigs	7000.00
Land (100 ha)	160000.00
Machinery	10600.00
Feeds in stoke	600.00
Office equipments	1400.00

On the same day, the farmer had ksh.5000,300.00 ksh cash at hand .the farm was owed ksh.3000.00 for beef and ksh .5000.00 for milk .the farm owed KGGCU ksh 2500 for fertilizers and sigma feeds ksh.5000.00 for feeds.

- (a) Draw the balance sheet for the farm as at 31:12:2018 (4 marks)
  - (b) Was the farm solvent or insolvent (1 mark)
15. The diagram labelled T and U below illustrate some arable weeds .study the diagrams and answer the questions that follows



- a. Identify the weed T and U (2 marks)
  - b. Why is weed T difficult to control in the field (1 marks)
  - c. State two harmful effects of weed U in crop production (2 marks)
16. The diagram below illustrates some methods of collecting soil samples from a field. Carefully study the diagram and answer the question that follows



- (a) Identify the method represented by letter X and (1-12)
    - i) X
    - ii) (1-12)
  - (b) List down two important details that should be indicated on the composite soil sample before sending it for testing (2 marks)
  - (c) State the advantages of method represented by (1-12) compared to X (1 mark)
17. a) state three reasons why raising seedlings in polythene sleeves is advisable than in a ground nursery (3 marks)
- b. State 2 activities that a farmer carries out in his nursery bed to harden the seedlings before transplanting (2 marks)
18. State three ways in which nitrogen may be lost from the soil (3 marks)
19. a Define the term minimum tillage (1 mark)
- b. Explain 4 importance of carrying out minimum tillage (4 marks)

**SECTION C:**

**ANSWER ALL QUESTIONS**

20. Describe the production of bulrush millet under the following
- d) Ecological requirements (4 marks)
  - e) Field preparation and planting (6 marks)
  - f) Pest, diseases and weed control (6 marks)
  - g) Harvesting, storage (4 marks)
21. (a) Describe the use of water in a farm (10 marks)
- (b) State the cultural methods of pest control in crop production (10 marks)
22. (a) Describe the features of good farm records (5 marks)



- (b) Outline the factors affecting the supply of farm products (5 marks)
- (c) Describe how farmers can improve production of the farm (5marks)
- (d) State the precautions to be taken when taking soil samples from the field

**GATUNDU SOUTH MOCK  
AGRICULTURE PAPER TWO  
443/2 2019**

**SECTION 30 MARKS**

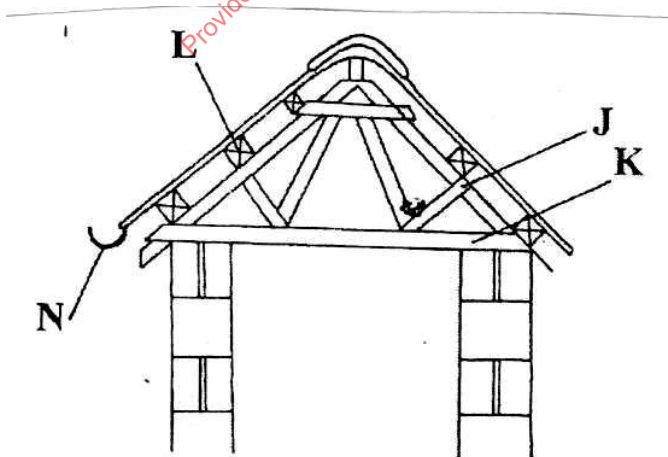
*Answer all the questions*

1. Name four breeds of beef cattle (2mks)
2. Name the sheep breed with a lambing percentage of 125 to 140 (1/2 mk)
3. State four reasons for maintain farm tools and equipment (2mks)
4. Explain why it is advantageous to use adjustable spanner over ring spanner (1mks)
5. Give two examples of equipment that a livestock farmer can use in administering oral antihelmithes (1mk)
6. Name the camel breed that is adapted to cooler regions and a woolly body covering (1/2 mk)
7. State any two channels through which beef is marketed in Kenya (1mk)
8. State four factors that influence the variation of rate of respiration in various farm animals (2mks)
9. Give four examples of mineral imbalances or disorders in the farm animals (2mks)
10. State four reasons why farmers handle farm animals (2mks)
11. State two symptoms of tapeworm attack in livestock (1mks)
12. State four characteristics of succulent roughages (2mks)
13. Give two signs of heat in rabbits (1mk)
14. Differentiate between kidding down and kindling down (1mk)
15. Give two reasons for carrying out flushing in ewes (1mk)
16. State two uses of a crush in livestock production (1mk)
17. Give three reasons why timber is treated before construction (1 ½mks)
18. State the three parts of a building (1 ½ mks)
19. State four qualities of marketable eggs (2 mks)
20. Give two factors that inhibits milk let down (1mk)
21. Differentiate between dehorning and disbudding as used in livestock production (1mk)
22. Name the four strokes of a four stoke cycle engine in their correct order (2mks)

**SECTION B (20MKS)**

*Answer all the questions*

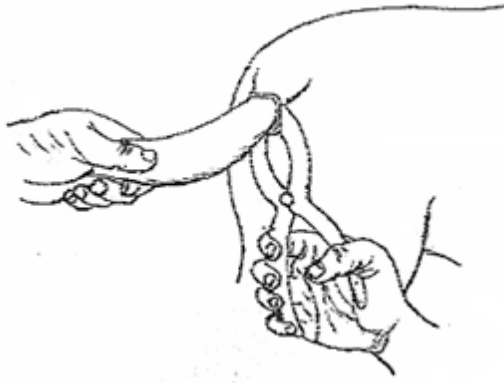
23. Below is an illustration of a farm structure. Study it carefully and answer the questions that follow.



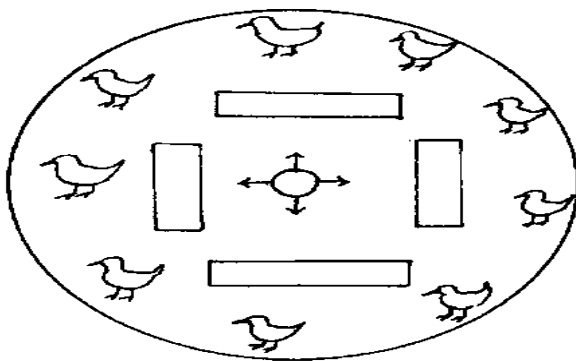
- a) Identify the parts labeled K,L,N and J (4mks)
- b) State one use of part labeled N (1mk)



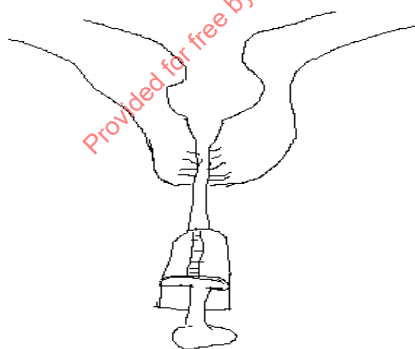
24. The diagram below shows a rearing practice in livestock production



- a. Name the routine practice shown in the diagram above (1mk)
  - b. Give three reasons why the above practice is carried out in farm animals (3mks)
  - c. Name the tools being used in the above practice (1mk)
25. Study the diagram below and answers the questions that follow



- a) Name the structure illustrated above (1mk)
  - b) Why should the structure be round and not rectangular or square shaped (1mk)
  - c) Describe the heat situation in the structure (1mk)
  - d) Give one reason to support your answer in C above (1mk)
  - e) Why is dust not suitable for use as litter in the structure (1mk)
26. Study the diagram below and answer the questions that follow.



- a) Name the above practice as carried out in livestock production (1mk)
- b) State the reason why the above practice is carried out (1mk)
- c) In which period of gestation is the above practice carried out (1mk)
- d) Describe the procedure of carrying out the above practice (2mks)

**SECTION C (40MARKS)**

**Answer any two questions**

- 27.
- A. Describe the lifecycle of a three host tick (10mks)
  - B. Explain five reasons why culling is carried out in livestock production (5mks)
  - C. Explain five factors that influence water requirement in a farm animal (5mks)
- 28.
- a. Discuss Gumboro disease under the following sub heading
    - i) Animals affected (2mks)
    - ii) Causative agent (1mks)
    - iii) Symptoms (5mks)
    - iv) Control measure (2mks)
  - b. Explain five factors considered when siting farm structures. (5mks)
  - c. Explain the advantages of embryo transplant as a method of services in livestock breeding (5mks)
- 29.
- a) Explain five advantages of farm mechanization (5mks)
  - b) Explain the practices observed in clean milk production (10mks)
  - c) Describe the disadvantages of animal drawn implements compared to tractor drawn implements (5mks)

**GATUNDU SOUTH SUB COUNTY JOINT EXAMINATION.  
AGRICULTURE  
PAPER 1**

**MARKING SCHEME:**

**SECTION A**

- 1) It does not pollute the air, water and soil with inorganic fertilizers.  
it conserves the bio- diversity since it does not uses agro chemicals e.g pesticides ,herbicides, acaricides ,insecticides which destroy the target organism /plant together with other useful ones. 2\* 1/2 marks
- (b)
- to make farrow for planting seeds
  - to hold the running water and controls soil erosion
  - to earth up roots crops of potatoes, and encourage maximum production
- 2)
- scarcity
  - test and preference /preference and choice
  - opportunity cost
  - 
  - vegetables crop nurseries
  - Tree nurseries
  - Vegetables propagation nurseries
- 3)
- Out compete pasture crops for growing foetus
  - poison livestock e.g thorn apple.
  - lower palatability of pastures eg devils house whip.
  - reduce quality of livestock productions e.g maxican marigoid.
  - subress pasture regrowth after defoliation.
- 4)
- Pesticides eg insecticides
  - fertilizers
  - drugs for livestock
  - herbicides to control weeds
  - farm machinery tools ,equipments and impliments
- 5)
- size of the seed

**CEKENA  
END OF TERM TWO EVALUATION TEST 2019  
AGRICULTURE  
443/1**

**SECTION A (30 marks)**

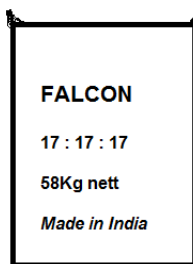
**Answer all the questions in the spaces provided**

1. Differentiate between pomoculture and olericulture as used in agriculture (1mk)
2. Name four practices carried out in organic farming. (2mks)
3. List three negative effects of low temperature to crop growth. (1 ½ mks)
4. State four importance of a good soil structure. (2mks)
5. State four reasons for carrying out rolling during crop production. (2mks)
6. List two factors that determine the depth of ploughing during land preparation. (1mk)
7. State three disadvantages of using metal pipes in water conveyance. (1 ½ mks)
8. Outline four disadvantages of using organic mature in crop production. (2mks)
9. Mention three important features of a good farm record. (1 ½ mks)
10. Give three details contained in a maize production record. (1 ½ mks)
11. State three uses of zinc in crop production. (1 ½ mks)
12. a) State three disadvantages of using nitrogenous fertilizers during top dressing in crop production. (1 ½ mks)
- b) Name two methods of applying nitrogenous fertilizer through side dressing. (1mk)
13. Outline four methods used to prepare planting materials. (2mks)
14. State four factors that necessitate deeper placement of seeds during planting. (2mks)
15. a) Differentiate between oversowing and undersowing. (1mk)
- b) List four disadvantages of row planting. (2mks)
16. a) State four factors that influence the sitting of a cabbage nursery bed. (2mks)
- b) State the reason for using a garden trowel during transplanting of cabbage seedlings (1mk)

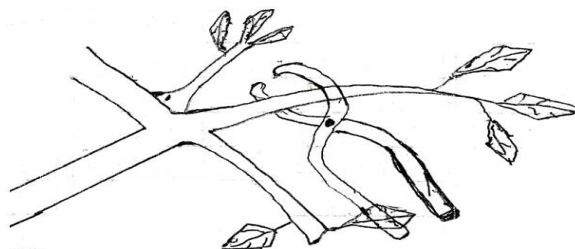
**SECTION B (20 MARKS)**

**Answer all the questions in the spaces provided**

17. The illustration below shows a sack of inorganic fertilizer. Study it carefully and answer the questions that follow



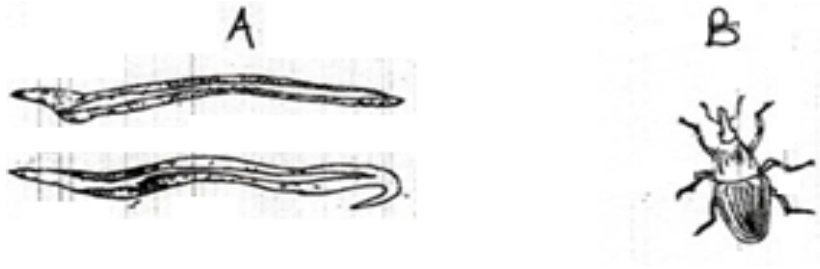
- a) What does 17 : 17 : 17 on the sack stand for? (1 ½ mks)
  - b) With a reason, to what class does the fertilizer belong? (2mks)
  - c) Calculate the amount of filler material in 50kg bag of the fertilizer. (1 ½ mks)
18. The diagram below shows a crop management practice in coffee.



- a) Name the practice. (1mk)
- b) State four reasons for the practice. (2mks)

c) Name two other practices that give the type of results above. (2mks)

19. The diagram below shows two types of pests



a) Identify pests A and B (2mks)

b) State two control measures for the pest A named above

c) State the damage caused by B, (1mk)

20. i) The diagram below illustrate common weed in arable land. Study them carefully and answer the questions that follow.



a) Identify the weed labeled D (1mk)

b) Classify the weed labeled C according to the plant morphology. (1mk)

c) i) Give one reason why it is difficult to control weed labeled D. (1mk)

ii) State two factors that contribute to competitive ability of weed C. (2mks)

**SECTION C (40 MARKS)**

**Answer any two questions in this section in the spaces provided.**

- 21. a) Explain five importance's for mulching in crop production. (10mks)
- b) State and explain four reasons why crop rotation is encouraged. (8mks)
- c) Describe the harvesting of cabbages (2mks)
- 22. a) Describe chemical process of water treatment (12mks)
- b) Explain four importance of drainage in land reclamation (8mks)
- 23. a) Give four advantages of rotational grazing (4mks)
- b) State three ways by which overheating can be prevented during the making of silage. (2mks)
- c) Outline the procedure of pruning tea using rings and pegs. (4mks)
- d) State and explain five structural measures for soil ad water conservation. (10mks)

**CEKENA  
END OF TERM TWO EVALUATION TEST 2019  
AGRICULTURE**

**SECTION A (30 marks)**

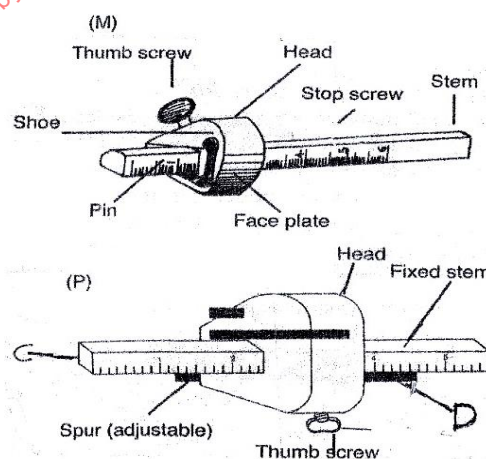
*Answer all the questions in the spaces provided*

1. State four characteristics of indigenous cattle breeds (4mk)
2. Name four meat breeds of rabbits (2mks)
3. Give the function of the following tools
  - i) Wood float (½mks)
  - ii) Drenching gun (½ mk)
  - iii) Monkey strainer (½ mks)
  - iv) Sickle (½ mk)
4. Give the functional difference between a coping saw and a hacksaw (1mk)
5. Name four predisposing factors to livestock diseases (2mks)
6. List three control measures for livestock diseases (1 ½ mk)
7. State two harmful effects of fleas in birds. (1mk)
8. Distinguish between essential and non-essential amino acids. (1mk)
9. Name the deficiency symptoms for the following mineral elements in livestock
  - Magnesium (½ mk)
  - Copper (½ mk)
  - Calcium (½ mk)
10. State the function of the following enzymes in livestock digestion
  - Trypsin (½ mk)
  - Pancreatic amylase (½ mk)
  - Pancreatic lipase (½ mk)
11. a) State two functions of the reticulum in ruminant animals. (2mks)  
 b) State five function of water in livestock. (2 ½ mks)
12. Distinguish between the following terms:
  - a) Heterosis and epistasis (2mks)
  - b) Dorminant and recessive genes (2mks)
13. Give four advantages of embryo transplant in cattle breeding. (4mks)

**SECTION B (20 MARKS)**

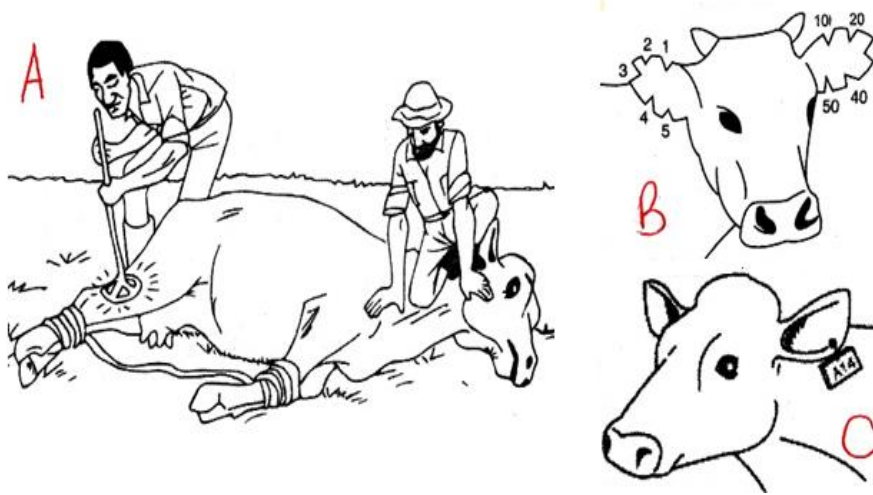
*Answer all questions in this section*

14. The diagram below shows two workshop tools and equipment.



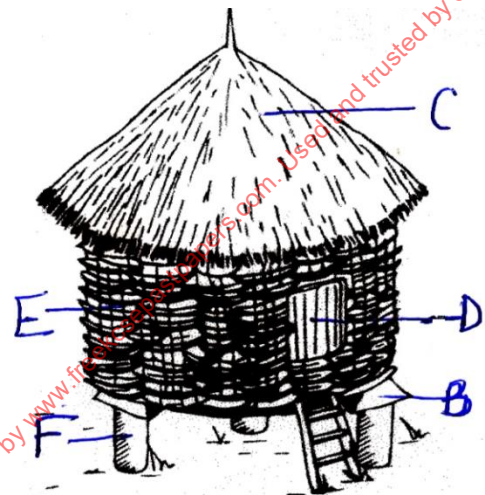
- a) Name tools: (2mk)
- b) Label parts C and D (1mk)
- c) Give the functional difference between the two tools (2mks)

15. The diagram below show various methods of a practice in livestock



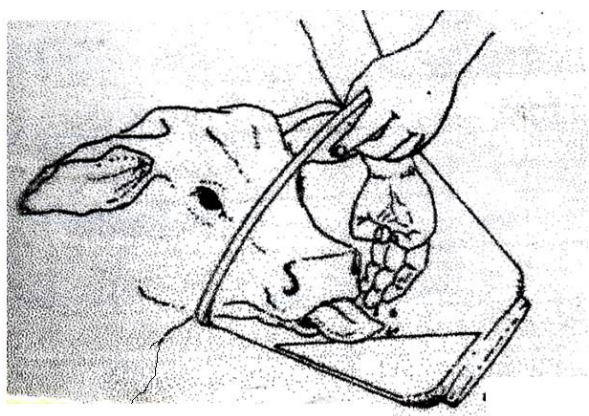
- a) Name the practice (1mk)
- b) Name the methods; (2mks)
- c) State two disadvantages of method A over method C (½ mk)
- d) State the advantage of method C over the other two methods.

16. The diagram below shows a farm structure. Study it and answer the questions that follow



- a) Name the structure. (1mk)
- b) Label parts B and C (2mks)
- c) State the structural requirements for parts D, E, F and C to perform its function.

17. Study the diagram below and answer the question that follow



- a) Name the practice being carried out. (½ mk)



- Reduces cost of production

**c) List four advantages of two stroke. (4mks)**

- They are cheaper to buy and maintain than four stroke engine.
- Economical I fuel consumption.
- Used in a wider range of farmland/hilly
- Can be used to do small tasks which would be uneconomical with four stroke engines

**d) Describe the mechanical operation of a 4 stroke engine. (4mks)**

- Induction stroke
  - Piston moves downwards in the cylinder
  - Inlet valve open
  - Petrol and air is drawn to piston cylinder
- Compression
  - Inlet valve closes
  - Piston moves up the cylinder and compresses the fuel air mixture in the combustion chamber
- Power/ignition
  - Spark is introduced and fuel air mixture ignites
  - Pressure forces piston down the cylinder
  - Inlet and outlet valves closed
- Exhaust stroke
  - Piston moves up the cylinder
  - Exhaust valve opens and exhaust fumes are pulled out of the piston cylinder

**CEKENA II  
AGRICULTURE**

**443/1**

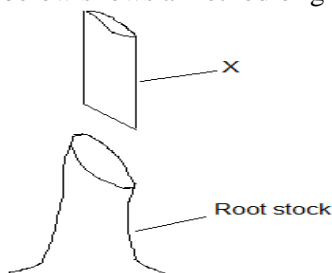
**SECTION A (30 MKS) – Answer all questions**

- Name four agricultural activities that make Agriculture an art (2mks)
- State four disadvantages of pastoral-nomadism method of farming (2mks)
- List four importance of carrying secondary cultivation. (2mks)
- Give four reasons for treating water before use in a farm (2mks)
- State four role of nitrogen in plants. (2mks)
- Under what two farming conditions is opportunity cost zero? (2mks)
- State four factors that determine the depth of planting. (2mks)
- List four fresh market varieties of tomatoes (2mks)
- State four importance of crop rotation. (4mks)
- State any four methods of land reform which have been applied in Kenya (2mks)
- State four factors that determine that quality of hay. (2mks)
- State four problems experienced by farmers in marketing tomatoes. (2mks)
- State four sources of agricultural credits to farmers. (2mks)
- State four advantages of drip irrigation. (2mks)

**SECTION B: (20MKS)**

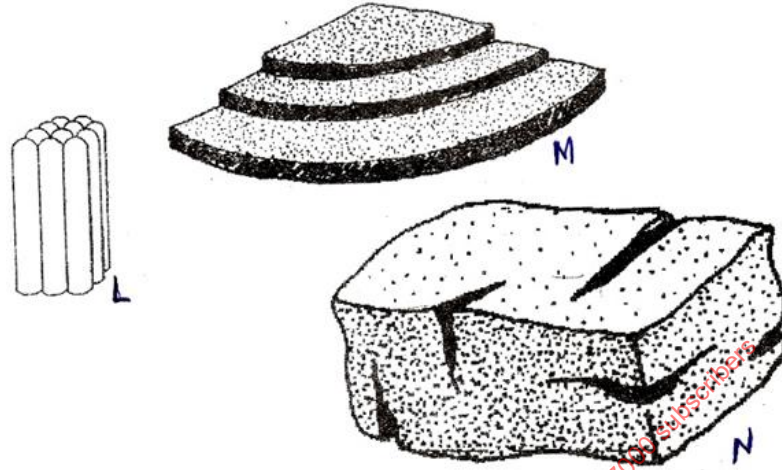
**ANSWER ALL QUESTION**

15. The diagram below shows a method of grafting



- a) Name the method of grafting illustrated above. (1mk)
- b) Name the part labeled X (1mk)
- c) State six reasons why budding and grafting are important in crop production. (3mks)

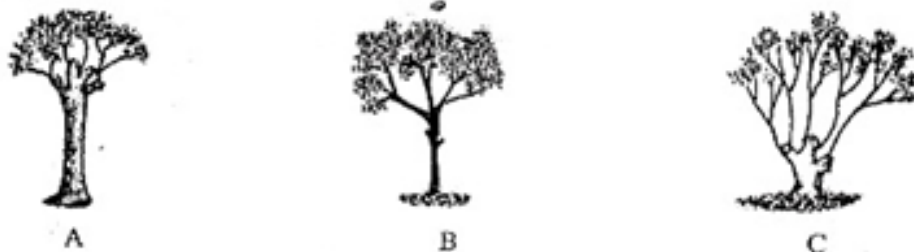
16. Study the diagram below of different types of soil structures and answer questions that follow.



- a) Identify the soil structures; (3mks)
  - b) Give two reasons why structure M is not good for crop production. (2mks)
17. The diagram below illustrates a parasitic weed. Study the diagram carefully and answer the questions that follow.



- a) Identify the weed illustrated above. (1mk)
  - b) Name two crops the weed illustrated above commonly attacks. (1mk)
  - c) State one reason why the weed is referred to as a parasitic weed. (1mk)
  - d) State two methods for controlling the weed illustrate above. (2mks)
18. The illustrations below are techniques of harvesting agro forestry trees. Study them carefully and then answer the questions below:-



- a) Identify the harvesting techniques represented by techniques A, B and C (3mks)
- b) State four factors considered when choosing trees for agro forestry. (2mks)

**SECTION C: (40 MARKS)**

Answer any two questions in this section.

- 19. a) Describe the effects of crop pests in agricultural production. (10 mks)

- b) State and explain five cultural measures for soil and water conservation (10mks)
20. a) Describe the harvesting of sugar cane (6mks)
- b) Give six reasons why it is advantageous to use farm yard manure (F.Y.M.) instead of straight fertilizer (6mks)
- c) Discuss the importance of budgeting in agricultural production. (8mks)
21. a) The following information was extracted from Mr. Ngunjiri's farm.  
Cash in hand, Ksh. 5000, bank overdraft Ksh. 40,000, land value Ksh. 500,000, lorry worth Kshs. 30,000, grains in store Ksh. 80,000, dairy cattle Ksh 15,000, Cash in bank Ksh. 50,000, debts received from dairy Co-op Ksh 12,000, layers Ksh. 30,000, debts payable Ksh. 26,100.
- a) Using the above information prepare a balance sheet for Mr. Ngunjiri's farm as at 31<sup>st</sup> September 2007. (15mks)
- b) What is the net worth of the farm (1mks)
- c) Describe the following books of accounts
- Inventory: (2mks)
- Cash book (2mks)

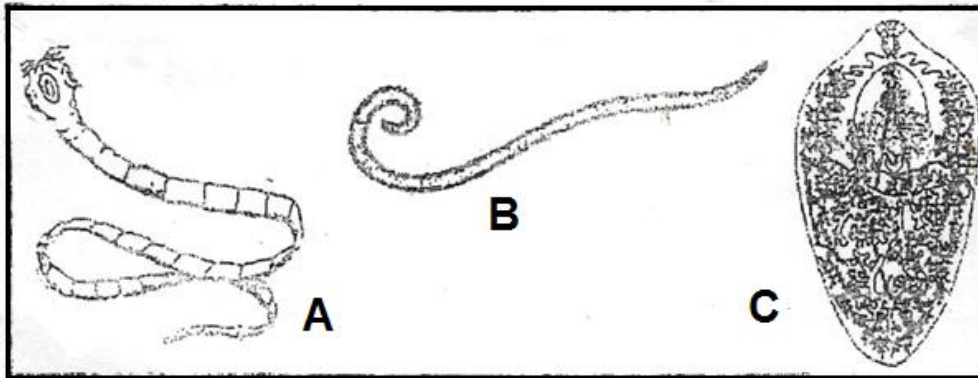
**CEKENA II**  
**AGRICULTURE**  
**443/2**

**SECTION A (30 MKS) – Answer all questions**

1. Name four beef breeds of cattle. (2mks)
2. Name the most appropriate tools used in the following operations (2mks)
- a) Branding
- b) Cutting wood along the grains
- c) Removing metal chippings in the file
- d) Cutting soft branches of coffee during pruning
3. State four factors that predisposes livestock to diseases (2mks)
4. State four control measures of tapeworms in livestock (2mks)
5. State three roles of additives in livestock nutrition (1 ½ mks)
6. State four reasons why inbreeding can be recommended in livestock (2mks)
7. State two uses of wind power (1mks)
8. Give four signs of a broody hen (2mks)
9. Name four sections found in a farrowing pen (2mks)
10. Give four signs a cow would show just before parturition. (2mks)
11. State four maintenance practices carried out on an ox-drawn harrow. (2mks)
12. State four reasons for castrating male piglets (2mks)
13. Name the causal agent for the following diseases (2mks)
- i) Coccidiosis
- ii) Blackquarter
14. State three reasons why honey harvesting is discouraged at night. (1 ½ mks)
15. State four factors that influence stocking rate in a fish pond. (2mks)
16. State two factors considered when siting a poultry house (1mk)

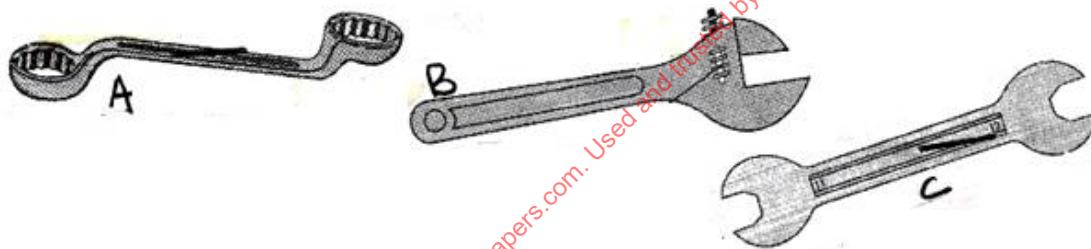
**SECTION B: (20MKS)**  
**ANSWER ALL QUESTIONS**

17. The diagram below illustrates some parasites. Study them and answer the questions that follow.



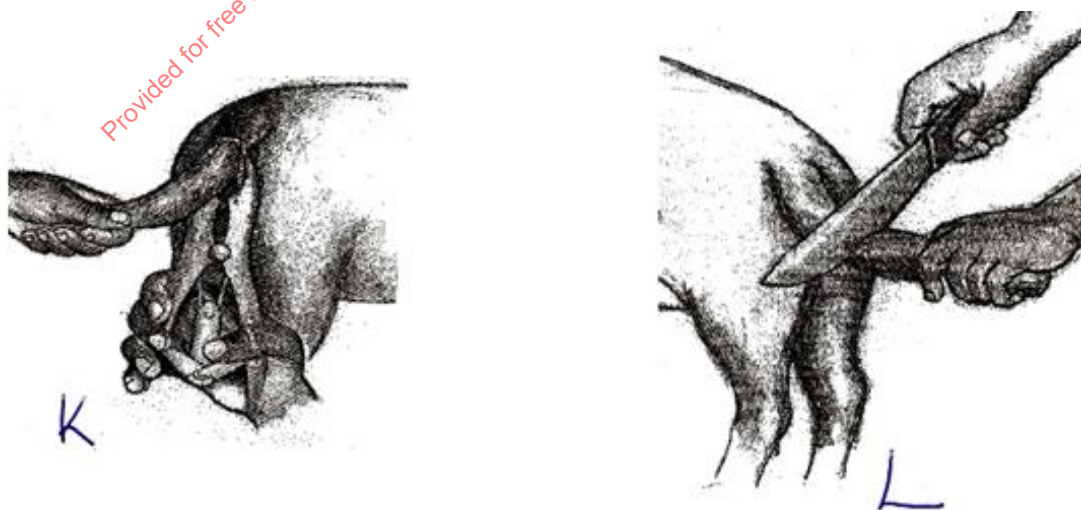
- a) Identify the parasite A,B and C (3mks)
  - b) Name the part of the host animal where the parasite A and B are found (1mk)
  - c) Name the intermediate host of parasite C (1mk)
18. A farmer is required to prepare 100kg of ration of 20% Digestible Crude Protein (DCP) from simsim seedcake containing 50% DCP and maize meal 10% DCP. Using the Pearsons square method, calculate the amount of simsim and maize meal the farmer requires. (5mks)

19. Below are illustrations of farm tools and equipment



- a) Identify the tools labeled A, B and C (3mks)
- b) State the advantage of tool B over tool C (1mk)
- c) State two reasons of maintaining tool labeled B (1mks)

20. The diagram below shows a livestock rearing practice. Study them and answer the questions that follow.



- a) Identify the rearing practice being carried above (1mk)
- b) Identify the methods illustrated above (2mks)
- c) Give two reasons for carrying out the above practice (2mks)

**SECTION C (40MAKS)**

**ANSWER ANY TWO QUESTIONS IN THE SECTION**

21. a) Describe the functions of various parts of a plunge dip (10 mks)  
 b) Compare animal drawn implements and tractor-drawn implements in the farm. (6mks)  
 c) Outline four methods of reinforcing fences to make them stronger. (4mks)
22. a) State five reasons for keeping livestock healthy. (5mks)  
 b) Describe New Castle disease under the following subheading.  
 i) Causal Organism (1mk)  
 ii) Animal(s) attack (1mk)  
 iii) Signs of attack (5mk)  
 iv) Control measures (3mks)  
 c) Describe five microbial activities that take place in the rumen of ruminant animals. (5mks)
- 23 a) State ten advantages of battery cage system in poultry rearing (10mks)  
 b) Describe ten essentials of clean milk production (10mks)

**CEKENA**  
**AGRICULTURE**  
**443/1**

**MARKING SCHEME**

**SECTION A (30 MKS) – Answer all questions**

- 1. Name four agricultural activities that make Agriculture an art (2mks)**  
 – Tilling of land  
 – Construction of farm structures  
 – Measuring distance  
 – Machine operations  
 – Harvesting of crops  
 – Feeding and handling animals  
 – Marketing of agricultural products
- 2. State four disadvantages of pastoral-nomadism method of farming (2mks)**  
 – Low production  
 – Uncontrolled mating  
 – Difficult to control parasites and diseases.  
 – Leads to overgrazing hence soil erosion
- 3. List four importance of carrying secondary cultivation. (2mks)**  
 – Control weeds/control parasites and diseases  
 – Incorporate organic matter in the soil  
 – Improve soil physical conditions/attain/attain appropriate tilth  
 – To make seedbed appropriate for growing certain crops e.g. in ridging.
- 4. Give four reasons for treating water before use in a farm (2mks)**  
 – Remove chemical impurities/softening of water  
 – Kill disease causing organisms/kill germs/pathogens.  
 – Remove bad smell and taste  
 – Remove impurities of soil particles
- 5. State four role of nitrogen in plants. (2mks)**  
 – Constituent of chlorophyll molecule  
 – Encourages vegetative growth  
 – Take part in protein formation  
 – Regulate availability of phosphorous and potassium  
 – Increase size and protein content in cereals
- 6. Under what two farming conditions is opportunity cost zero? (2mks)**  
 – When there was no alternative



**UASIN GISHU ACK JOINT EXAM 2019**  
**443/1**  
**AGRICULTURE**  
**PAPER 1**

**SECTION A (30 MARKS)**

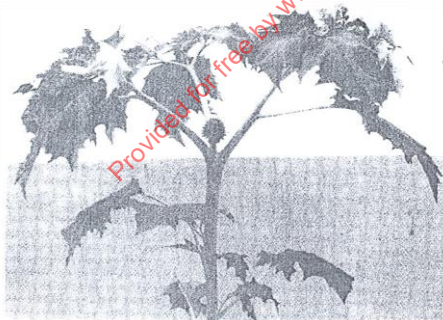
**Answer ALL the questions in this section in the spaces provided.**

1. List **four** categories of livestock farming. (2 marks)
2. State **four** possible uses of income earned by farmers from the sale of agricultural produce. (2 marks)
3. Give **four** uses of micro-catchments. (2 marks)
4. State any **four** effects of soil erosion in Kenya. (2 marks)
5. List **four** practices in the field that promote organic farming. (2 marks)
6. Give **four** biotic factors that affect agriculture positively. (2 marks)
7. State any **four** steps in the soil sampling procedure. (2 marks)
8. Give **four** objectives of propping in banana production. (2 marks)
9. State **four** features of a good storage structure for grains. (2 marks)
10. Give **four** examples of land tenure reforms. (2marks)
11. List **four** areas into which a cut -off drain discharges its water safely. (2 marks)
12. What is "Economic Injury Level" in pest management? (1mark)
13. Give **four** symptoms of viral infections in crops. (2marks)
14. State the Law of Diminishing Returns. (1 mark)
15. Differentiate between partial and complete budget. (1 mark)
16. Give **four** factors that influence spacing of a given crop. (2 marks)
17. What is capping in coffee production? (1 mark)

**SECTION B: (20 Marks)**

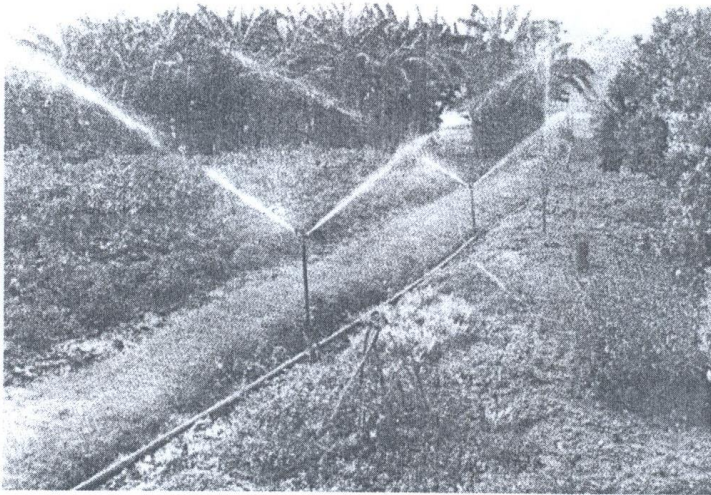
**Answer ALL questions in this section in the spaces provided**

18. A farmer in Muhoroni was advised to apply a compound fertilizer 20:30:10 at the rate of 200kg per hectare in her vegetable plot measuring 5m long by 4m wide.
  - (a) What do figures 30 and 10 in the fertilizer ratio stand for? (2 marks)
  - (b) Calculate the amount of fertilizer the farmer needs for the vegetable plot. (3 marks)
 (Show your working)
19. Carefully study the diagram illustrating a common weed below then answer the questions that follow.

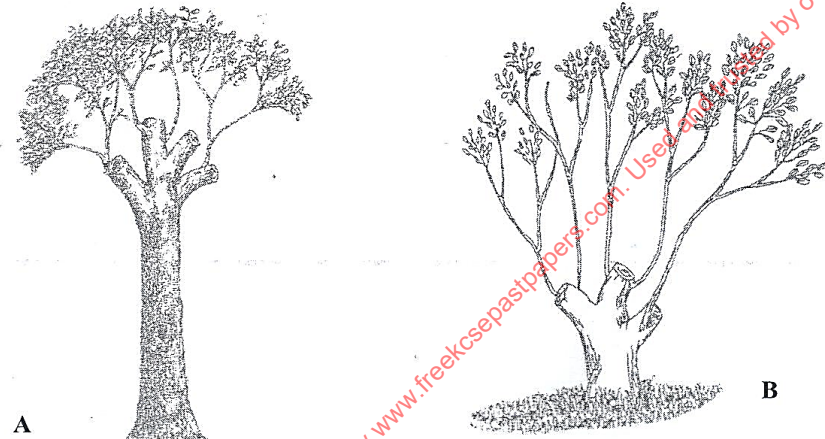


- a) Identify the weed. (1 mark)
  - b) Classify the weed according to growth cycle. (1 mark)
  - c) What effect does the weed have on livestock? (1 mark)
  - d) Give **one** reason why the weed is not easy to control. (1 mark)
20. Carefully study the following illustration then answer the questions that follow.





- a) Identify the method of irrigation illustrated. (1 mark)
  - b) i) Give **two** advantages of this method of irrigation. (1 mark)
  - ii) What is the major disadvantage of this method to a crop farmer? (1 mark)
  - c) i) How would you maintain the equipment to serve the farmer better? (1 mark)
  - ii) Give **two** other ways by which this method of irrigation can be achieved. (2 marks)
21. The diagrams below illustrate tree harvesting methods. Study them carefully then answer the questions that follow.



- a) Identify the methods illustrated in diagrams **A** and **B**. (2 marks)
- b) How does technique **B** differ from **A**? (1 mark)
- c) What are the objectives of carrying out tree harvesting shown in **A**? (2 marks)

**SECTION C: (40 MARKS)**

Answer any **two** questions from this section in the spaces provided after question 24.

- 22. a) Explain **four** human factors that influence agriculture. (8 marks)
- b) Describe the production of Dry Beans under the following sub-headings:
  - i) Planting (3 marks)
  - ii) Field management practices. (5 marks)
  - iii) Harvesting and post-harvest practices. (4 marks)
- 23. a) State **four** methods of acquiring land for use in Kenya. (4 marks)
- b) State the details contained in a purchase order. (4 marks)
- c) Draw up a partial budget to show whether the proposed change is worthwhile or not using the information below. (12 marks)

A farmer has 10 ha of arable land, 2 ha is under Irish Potatoes, 1 ha under beans and 2 ha under maize while the rest is under pasture and fodder.

The farmer wishes to replace 0.5ha of maize with Irish potatoes.

The fertilizer rate would have to increase from 2 bags per ha for maize to 2.5 bags per ha for potatoes. An extra 50 man-days of casual labour per ha would be required due to the change. Average yields are 50 bags per ha for maize and 90 bags per ha for potatoes.

The price of maize per bag is 1300/= and 1700/= for potatoes.

Seeds cost 1000/= per bag for maize and 2000/= per bag for potatoes.

Fertilizer costs 1200/= 50 kg bag. Potato seeds required are 4 bags and 1 bag of maize seeds to plant 0.5 ha.

Labour cost is 150/= per man –day.

1. a) Describe nursery and field management practices for cabbages. (12 marks)
- b) i) Distinguish between stocking rate and land carrying capacity as used in pasture utilization (2 marks)
- ii) Describe the properties of good quality silage. (6 marks)

**UASIN GISHU ACK JOINT EXAM 2019**

443/2

**AGRICULTURE  
PAPER 2**

**SECTION A (30marks)**

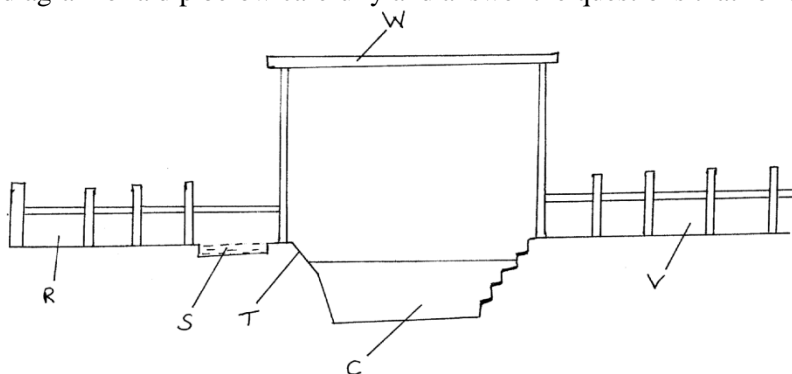
Answer ALL the questions in this section in the spaces provides

1. List **four** livestock species kept by farmers. (2marks)
2. Give **four** characteristics of an effective acaricide. (2marks)
3. Give any **four** categories of farm tools and equipment. (2marks)
4. Name **four** substances resulting from digestion and microbial activities in the rumen. (2marks)
5. State two precautionary measures to take during handling of vaccines before use. (2marks)
6. Give **four** signs of heat on sows. (2marks)
7. Give **two** reasons why Jersey breed is more suited to marginal areas than Fresian breed. (1mark)
8. Which **two** factors influence the quality of honey? (1mark)
9. List **four** routine management practices carried out on cattle in a crush. (2marks)
10. Lists **two** tools used in docking. (1mark)
11. Give **four** materials collected by bees. (2marks)
12. State **four** advantages of using concrete in constructing farm structures. (2marks)
13. List four characteristics of eggs fit for incubation. (2marks)
14. Which are the two calf weaning programmes. (1mark)
15. Which **four** factors affect milk composition? (2marks)
16. State **four** factors that influence the choice of rearing system to poultry farmer. (2marks)
17. Give **two** sources of chicks for poultry farmers in Kenya. (1mark)
18. State **two** conditions which may result from persistent use of wood fuel as a source of power in rural homes. (1mark)

**SECTION B (20marks)**

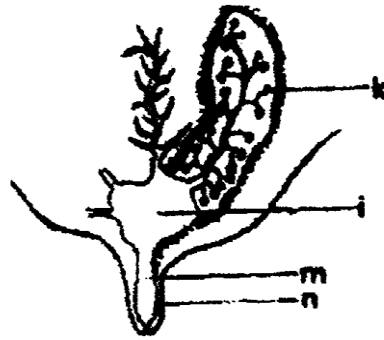
Answer ALL questions in this section in the spaces provided.

19. Study the diagram of a dip below carefully and answer the questions that follow.

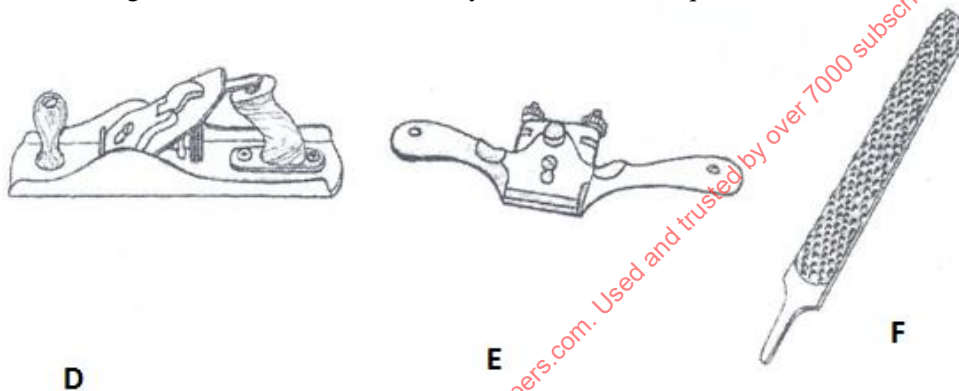


- a. Identify the parts labeled R, S, T, U and V. (2mks)
- b. State the functions of parts labeled W and V. (2mks)
- c. Name the solution that is placed in the part labeled S. (1mk)
- d. Mention **one** maintenance practice carried out on the cattle dip above. (1mk)

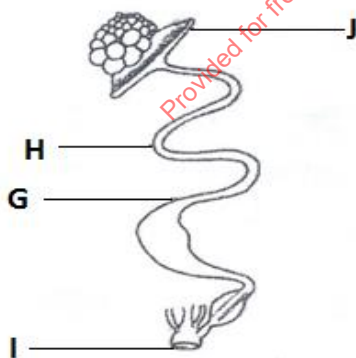
20. Below The diagram below is a cross section of part of a cow's udder.



- (a) Label on the diagram the parts marked k, l, m and n. (2mks)
  - (b) (i) What is milk let down? (1 mk)
  - (ii) Which hormone stimulates milk let down. (1 mk)
  - (c) State one practice which is carried out to control mastitis in lactating cows. (1 mk)
21. Study the following illustration of tools carefully then answer the questions that follow.



- (a) Identify the tools labeled D, E and F. (1½marks)
  - (b) Give **one** situation in which only tool F can be used. (½mark)
  - (c) Give **one** use of tools D, E and F. (1½marks)
  - (d) Give **one** maintenance practice carried out each of the tools. (1½marks)
22. Carefully study the illustration of the reproductive system of a hen below the answer the question that follow.



- (a) (i) Name the parts labelled G, H, I and J. (2marks)
- (ii) In which part does the egg stay longest during the formation process? (½mark)
- (b) Where does each of the following activities occur before the egg is laid? (1½marks)
- (i) Fertilization.....
- (ii) Shell and pigment deposition.....
- (iii) Addition of water, mineral salts and vitamins.....

**SECTION C (40marks)**

**Answer any TWO questions from this section in the spaces provided after question 25**

23. a) Describe artificial rearing of chicks from day old to end of brooding period. (10marks)  
 b) Outline advantages of live fences in the farm. (5marks)  
 c) Explain why embryo transplant is gaining popularity in livestock improvement in Kenya. (5marks)
24. a) Describe milk fever under the following sub-headings:  
 (i) Animal species attacked. (2marks)  
 (ii) Symptoms of attack. (2marks)  
 (iii) Control and treatment. (4marks)  
 b) Describe any four daily maintenance practices on a tractor before releasing it for work in the farm. (8marks)  
 c) Outline factors that would force the farmer to use hand tools for cultivation instead of tractor –drawn implements. (4marks)
25. a) Outline harmful effects of parasites. (5marks).  
 b) Describe the procedure used in clean milk production. (8marks)  
 c) Describe maintenance practices to be carried out in a deep litter house. (7marks)

**UASIN GISHU ACK JOINT EXAM:  
 AGRICULTURE PAPER 1  
 MARKING SCHEME (443/1)**

**Section A (30marks)**

1. Four categories of livestock farming:  
 – Mammalian livestock farming/pastoralism/Rabbit production/soats production/beef and dairy production.  
 – Fish farming/agriculture.  
 – Bee keeping/apiculture.  
 – Poultry keeping. (½x4=2mks)
2. Four possible uses of income earns from the sale of agricultural produce.  
 – Starting small industries/enterprises.  
 – Buying farm tools and equipment.  
 – Paying wages of farm workers.  
 – Meeting back human needs.  
 – Raising standards of living/improving infrastructure.  
 – Paying school fees. (½x4=2mks)
3. Four uses of micro-catchment.  
 – To slow down speed of run off thereby encouraging infrastructure and reducing soil erosion.  
 – Collected water percolates hence raising the water table.  
 – Puts trapped water into productive use.  
 – Reduces silting of dams and other surface water reservoirs.  
 – Improves water catchment areas thus maintaining high and continuous flow of water in rivers and streams.  
 – Creates micro-climate hence improving environmental conditions of an area. (½x4=2mks)
4. Four effects of soil erosion in Kenya.  
 – Loss of soil fertility.  
 – Sedimentation of dams and lakes.  
 – Destruction of transport network.  
 – Property damage and loss of life due to landslide and mudslide.  
 – Reduction in available arable land for agriculture.  
 – River blockage/changing its course.  
 – Pollution of water bodies or services. (½x4=2mks)
5. Four fields practices that promote organic farming.  
 – Mulching.